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THE LEPROSY QUESTION.

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Leprosy is the oldest disease on record, dating back to the year 4200 B. C., when it was endemic in Egypt; and to this day the traveler in walking the streets of the smaller towns of that country is liable to be startled by the hoarse croaking of the blear-eyed, plague-stricken victim of the *baras*, as this malady is commonly called in the East. From Egypt the Jews brought the disease with them into Palestine, where Moses found it necessary to frame stringent laws relative to its diagnosis and prevention.

It is probable that under the generic term *leprosy*, the Law-giver described, besides the affection which we now know by that name, a number of other cutaneous diseases, notably leucoderma, the Aleppo evil, erysipelas and ringworm. Perhaps certain inflammations of the skin due to animal parasites, such as pediculosis and scabies, were also included under this title. The main object of the Levitical code was the prevention of contagion by isolating the diseased person and excluding him from the community, upon the assumption that the malady was communicable and a menace to all who touched the victim of the scourge, or who came in contact with anything that he had touched. In this way many who were not afflicted with true leprosy, but who had some cutaneous affection resembling it, were made to suffer exclusion and associate with the lepers until time should work sufficient change in their eruption to warrant the Levites in declaring them cleansed. The law being framed *pro bono publico*, it was deemed wiser that a few should be made to suffer the odium and discomfort of being considered unclean, than that the welfare of the many should be jeopardized by a case whose diagnosis was uncertain. The scriptural regulations relating to the prevention of leprosy have not been improved upon by sanitarians of the present day, and whether a community harboring this disease holds to the theory of heredity or contagion, but one plan has been found effective for checking its spread, and that is the plan of the ancient Hebrew: to isolate and segregate the lepers.

In the middle ages when the returning Crusaders brought into Europe this baneful disease, its rapid spread soon made it an imperative necessity for the safety of the people that lepers should be isolated. As a consequence benevolent societies were instituted for the purpose of collecting lepers and nursing them in buildings specially erected as lazarettos.

Notable among the organizations dedicated to this work were the order of Saint Lazarus, and the order of Knights Hospitallers. That these persons who devoted their lives to this purpose had much work to do can be imagined when we reflect that leprosy was very common in the thirteenth and fourteenth centuries, and that there were on the death of Louis VIII (1229), two thousand lazarettos in France alone, and nineteen thousand in Christendom.[1] Doubtless many of the cases confined in these hospitals were not leprosy at all, a large number being, perhaps, syphilis, a disease which, in many respects, resembles leprosy, and which, in the days before mercury was known to be a specific against it, very probably in many cases produced more pain and disfigurement, and killed its victims quicker than leprosy. But it is reasonable to conclude that the majority were *bonâ fide* cases of Oriental leprosy, and that the one hundred and twelve hospitals that existed in England between the years 1101 and 1472,[2] gave shelter to persons who suffered with the disease described in the thirteenth chapter of Leviticus. As a result of the beneficial effects of isolation these hospitals were reported to Henry VIII as *empty*, when that devout monarch was taking an inventory of church property for the purpose of appropriating the revenues to the uses of the crown.

In more recent times isolation has been practiced with varying degrees of success. In 1785 leprosy was "not an uncommon affliction in Louisiana," and a hospital was established in the suburbs of New Orleans by the governor, Estévan Miro. "In the course of a few years," says Gayarré, in his History of Louisiana, "the number of these patients gradually diminished, either by death or transportation, the disease disappeared almost entirely, the hospital went into decay, and Leper's Land remained for a considerable length of time a wild looking spot, covered with brambles, briers, weeds, and a luxurious growth of palmettoes."

In Tracadie, Nova Scotia, there were, in 1875, twenty lepers in the lazaretto, and sixteen outside, making a total of thirty-six, while in 1885, there were twenty-one lepers in the lazaretto and three outside, making a total of twenty-four,—a diminution of twelve cases in ten years. In 1889 there were eighteen lepers reported in all Tracadie.

In Norway, isolation of lepers has been practiced since 1856, when there were 2,871 recorded, in and out of the hospitals; in 1866 there were 2,717 lepers; in 1876, there were 2,059; and in 1882, there were 1,433, the figures showing that there were about one-half as many lepers in Norway in 1882 as there were in that country twenty-six years before.

It should be remembered that both in Nova Scotia and in Norway, the system of isolation has only been partially applied, and doubtless there were, in both places, even more lepers outside of the hospitals than

[1] Leloir: Traité Pratique et Théorique de la Lèpre, 1886, p. 265.
[2] See Article by Dr. James Christie in McCall Anderson's Treatise on Diseases of the Skin, 1887.

have been recorded, as it is customary all over the world for well-to-do families to secrete, for obvious reasons, such of their members as are subject to this terrible affliction. In warmer climates efforts at segregation, though limiting the spread of the disease, have not brought such favorable results as those just noted, and in the Sandwich Islands where this has been practiced most actively of late years, so large a number of lepers have been allowed to remain out of the lazaretto that it would be unfair to give a judgment for or against the practice of isolation; but certain it is that in Louisiana,[3] since the abolition of Miro's lazar house, the disease has been slowly, but steadily increasing, until to-day the lepers of that State number from seventy-five to one hundred.

Many attempts have been made to explain the origin of leprosy, and strong arguments have been brought forward to show that it is due to certain special causes or conditions, namely, that it is hereditary; that it is contagious; that it is due to a diet of fish, or salt meat, or raw meat, or putrid meat. Some hold that it is acquired by inoculation from the sores and ulcers of a leper; while others believe that certain animals act as intermediate hosts of the germs of the disease. With all of these conflicting views to confuse us in our search for the solution of the problem, the question still remains to be answered: *Is leprosy contagious?* To base our conclusions solely on the *opinion* of the majority of observers would probably not lead us much nearer to the truth, for the long incubation and slow evolution of this disease allow so many incidents to occur in the history of a single case that it is difficult for isolated observers to ascertain what is essential and what is accidental.

To prevent ourselves from drawing too hasty a conclusion as to the etiology of leprosy, we should bear in mind the experience of no less a body than the Royal College of Physicians, which declared in 1867, that leprosy was *not* contagious, basing its statement upon the opinions of the majority of medical men with whom it had been for several years in communication. Whether the "*patres conscripti* of English medicine," as they have been sarcastically styled,[4] were right or wrong in their conclusions, there can be less doubt as to the injudiciousness of their premature decision when we consider the loose and unscientific methods of investigation which they pursued.

The general belief of to-day, with a respectable minority holding contrary views, is that leprosy is contagious, or, to use a better and safer word, *communicable*.

In every country it has been a common experience to see the disease "run" in families, sometimes "to the third and fourth generation," and it has seemed idle not to suppose that whatever else it might be, it was certainly hereditary. But those who hold to this view are not as numerous to-day as they were ten or fifteen years ago, owing to the discovery of a factor which is destined to play a conspicuous part in the study of this disease—I mean the *bacillus lepræ*. This is a little, rod-like microörganism, about one five-thousandth of an inch in length, making it, therefore, about one-half as long as an ordinary red blood corpuscle. It is invariably found in the tissues wherever the disease is pronounced, and is to be regarded as the cause of leprosy, just as the bacillus tuberculosis, which it closely resembles, has been shown to be the cause of pulmonary consumption. The honor of the discovery of the bacillus of leprosy is due to Hansen, of Bergen, Norway, who first described it in 1874,[5] though much of our knowledge of its peculiarities is due to Neisser, of Breslau, who has written considerably upon the subject. This discovery has added a new impetus to the study of the origin of this hitherto puzzling disease, and with the *bacillus lepræ* as a starting point, investigators are likely to attain some decided results in the near future.

The microbic nature of the affection having been settled, the inference was at once drawn that leprosy, like other germ diseases, might be communicated from a diseased to a healthy person by inoculation.

An excellent opportunity to determine this *questio vexata* seemed to present itself when Dr. Arning, in 1885, obtained permission from the authorities of Honolulu, one of the Sandwich Islands, to inoculate a condemned criminal, with the privilege of offering him his life, provided he would consent to the operation.

His consent was obtained, and in four years the disease, which had come gradually upon him, was so well developed that all who saw him pronounced his case one of undoubted tubercular leprosy.

Considerable stir was created in the medical world by the announcement of this result, and the inoculability of leprosy was accepted by many as finally settled. The writer called attention at the time to the necessity for being very circumspect in accepting this case as final, owing to the fact that a large number of Hawaiians were already tainted with the disease, and the following words were used:[6] "This is not a perfect test case. The man was a *native*; had he been a foreigner—an Englishman or an American for instance—it would have been better. There still remains a possibility that he may have had the disease in his system before the inoculation was made." And it has turned that this was probably the case. Dr. Arning's successor at the leper settlement has ascertained that Keanu's son, nephew, and cousin german, are lepers, leaving the question still undetermined as to whether the man might not have developed the disease from a previous contact with one of these persons, or from having inherited it, with his three relatives, from a common ancestor.

There is some uncertainty as to the exact date of the introduction of leprosy into the Sandwich Islands, but it seems probable that the disease was introduced there by the Chinese prior to 1840, and that it became disseminated among the natives about the year 1848. Its rapid extension among these people can best be accounted for on the theory of contagion, for a disease that is hereditary only could hardly have sent to the lazaretto, between the years 1866 and 1890, over 4,000 lepers, and enabled a close observer like Dr. Prince A. Morrow, to estimate, in 1890, that "probably more than five per cent. of the entire native population are lepers."[7] The licentiousness of the native islanders, and their susceptibility to disease as evidenced in their past experience with small-pox, syphilis and measles, show that leprosy has found among them a fertile soil for propagation.

[3] The writer has recently reported eighty-three cases of leprosy observed in Louisiana during the past five years. New York Medical Journal, March 12, 1892.

[4] Sir Morrell Mackenzie in the Nineteenth Century, December, 1889.

[5] Norsk Magazin vor loege Videnskab, 1874, fasc 9, and Virchow's Archives, Vol. LXXIX.

[6] New Orleans Med. and Surg. Journal, January, 1889.

[7] Jour. of Cut. and Genito-Urinary Diseases, May, 1889.

Upon this subject Hansen has expressed himself in very strong terms, declaring that if an effort is made to explain, on the theory of heredity, the enormously rapid development of leprosy in the Sandwich Islands during the past forty years, then the conditions of the people must be far worse than has been reported; and though the women are notoriously lax in their marital relations, it is nevertheless necessary to admit either that they have a particular predilection for leprous men, or that the disease is becoming more virulent; two conditions which are not likely to be generally accepted.[8]

The following figures, from the island of Trinidad, speak for themselves[9]:

Population in 1805,	29,940.	Lepers,	3.
" 1813,	32,000.	"	73.
" 1884,	180,000.	"	450.

But Dr. de Verteuille believes that the last figure, 450, is far below the correct one.

From the same locality Dr. Beavan Rake writes as follows:[10]

"I have urged on the Government the desirability of getting periodical returns of the number of lepers, but nothing has been done yet. The number of lepers in the asylum is hardly any guide, for the beds are nearly always full and there are numbers waiting outside. I, however, give you the following figures for what they are worth:

On January 1, 1869, there were				70	lepers in the asylum.			
On Dec.	31, 1873,	"	"	86	"	"	"	"
" "	31, 1881,	"	"	128	"	"	"	"
" "	31, 1887,	"	"	176	"	"	"	"

Thus in twenty years the number of beds in the asylum has been more than doubled. Comparing the census of 1881 with the *estimated* population at the end of 1887, we have:

	Population.	Lepers in Asylum.
1871	109,638	89
1881	153,128	128
1887	183,406	176

This shows the increase of lepers in the asylum to be out of proportion to the increase of population."

Referring to leprosy in British Guiana, Dr. Abraham says:[11] "There have also been many excellent reports concerning leprosy from the medical officers of British Guiana, and amongst them the careful and valuable work (*Leprosy in British Guiana*) by Dr. Hillis, formerly of Demarara, must be particularly referred to. Conclusive official statistics, however, relating to the increase or decrease of the disease are not extant. At the time he wrote, Dr. Hillis believed that 1 in 500 of the population was leprous.

The figures given for 1831 are 431, 1864 are 529, and for 1879, 525; but he is of the opinion that these latter are inaccurate.

He considers that while there has been an increase of 160 per cent. of the cases of leprosy in the twenty years of 1858–78, the increase of population has been only 45 per cent.

The Surgeon-General of the colony, Dr. Mauget, stated in 1879 that "leprosy is on the increase among the Creole population, but the coolies are those who by far add to the number."

The reports for the last few years give—

January 1, 1884, cases in the asylum						200.
" 1, 1885,	"	"	"	"		268.
" 1, 1886,	"	"	"	"		305.
" 1, 1887,	"	"	"	"		322.
" 1, 1888,	"	"	"	"		365.

[8] Virchow's Archiv. f. pathol. Anatomie und Pathologie, 1890, vol. 120, p. 476.

[9] Leloir, loc. cit.

[10] Leprosy: A Review of Some Facts and Figures. By P. S. Abraham, Med. Sect'y National Leprosy Fund.

[11] Loc. cit.

Perhaps no single fact has added more to the belief in the doctrine of contagion than the experience of the self-sacrificing Belgian priest, Father Damien, who went out into the leper settlement of the Sandwich Islands in 1873, and after working amongst the afflicted people for thirteen years, in every capacity from priest to grave digger, acquired the disease himself, and finally died of it in April, 1889.

On his demise this story was told over again in the medical journals, and the religious and secular press were not slow in dilating upon the martyrdom of this devoted man. About this time it was ascertained that there were two or three cases of leprosy walking abroad in the city of London. John Bull was horrified, and the bare possibility of danger at home recalled to his mind the undoubted certainty of danger abroad, for the Queen of England is also Empress of India, and it is estimated that British India contains to-day more than two hundred and fifty thousand lepers. Other portions of the Queen's dominions have leper colonies, such as Trinidad, British Guiana, Jamaica, Cape of Good Hope, Ceylon, Mauritius and New Zealand. These facts, though known to the medical world, were rather startling when presented in lump to the British public, accompanied by actual figures. A movement headed by the Prince of Wales was immediately inaugurated to investigate the causes of leprosy, and the result is that for the first time in the history of this disease it is now being studied from a thoroughly scientific stand-point.

The Leprosy Investigation Committee, which has charge of this movement, numbers upon its list the names of the best known and most influential men of Great Britain, the prince himself being president of the committee. In October, 1890, three experts were appointed as British Commissioners to go out to India to study and report upon the leprosy question.

The Royal College of Physicians wisely selected as its nominee Dr. Beaven Neave Rake, Superintendent of the Trinidad Leper Hospital, an expert bacteriologist; the executive committee of the National Leprosy Fund nominated Dr. George A. Buckmaster, an expert sanitarian; and the Royal College of Surgeons nominated Mr. Alfredo A. Kanthack, an expert microscopist and bacteriologist. At the same time the governor-general of India appointed Surgeon-Major A. Barclay and Surgeon-Major S. J. Thomson to be associated with the British Commissioners in their work in India. The former set out for Bombay in October, 1890, and are now far advanced in their labors. A large number of lepers have already been examined and voluminous notes taken on their cases. During the past summer (1891) a halt was called at Simla, that the members of the commission, who had pursued their investigations in different portions of the country, might meet at this place, and also for the purpose of carrying on laboratory investigation. The conclusions which these gentlemen have arrived at, with one exception, are not as yet given to the world, but we know that many very interesting facts have been ascertained. The exception is the discovery of the fact that *the germ of leprosy can be cultivated.*

Possessing the disease in this "bottled up" condition the bacteriologist has his labors greatly simplified, for whenever he devises a new experiment he can go to this "culture" and draw as much of the concen-

trated virus as he chooses to use, with greater certainty that no extraneous products or other microörganisms will mix themselves up with his experiment and mar its scientific accuracy.

With these facts before us we would be but poor prophets could we not predict an early solution of the leprosy problem, and perhaps the first question that will be answered is whether or not the disease is communicable from one human being to another. But when the answer has been given in the affirmative, as we suspect it will be, another question will arise demanding an equally careful consideration, and that is: *How is it communicated?*

BENJAMIN RUSH, M.D., PATRIOT AND PHYSICIAN.

An Address to the Graduates of the Class of 1892, of the Michigan College of Medicine and Surgery, Detroit.

BY HAL C. WYMAN, M.D.,
PRESIDENT OF THE BOARD OF TRUSTEES, AND PROFESSOR OF SURGERY.

Ladies and Gentlemen:—It is the custom of the Faculty of this College to appoint one of its members to deliver an annual address. That office has fallen to me.

In casting about for a subject, it occurred to me that a useful lesson might be learned from the history of our country.

I know that I am expected to advise you how to make your work in life successful. It is easy to give advice.

That great convulsion in political affairs which gave to the world the Government of the United States brought many men into prominence whose names are now household words. Washington, Franklin, Adams, and others not necessary to mention, will live in the minds of the American people as long as American institutions endure.

Not a State in this great Republic but has its counties named in honor of some of these men; not a county but has its towns and villages named after some of them; not a city but has streets and avenues named after them. Even the geography of our country is illuminated by the names of the military and political heroes of the Revolution. We Americans think the grandeur, the majesty and the glory of Mount Washington are of small concern compared with the victories and the virtues of the Father of our Country, George Washington, in whose honor the mountain is named.

There was one man cotemporary with those I have named, whose deeds were no less heroic than theirs, but his memory is not perpetuated by political or geographical distinctions. Benjamin Rush was a doctor, a member of the Continental Congress, signer of the Declaration of Independence, Surgeon-General of the Continental Army, founder of learned societies, promotor of public schools, teacher of medicine, and searcher into the causes of epidemics which frequently threatened to make the fertile lands of the colonists uninhabitable. His biographer, writing many years ago, says he was a patriot, a versatile and prolific writer, a pious and skilful physician.

When Washington visited his army at Valley Forge, during that awful winter, it is said that he shed tears because of the sufferings of his soldiers; but Dr. Rush was busy at that time teaching them to live.

His knowledge of the medicinal plants which grew in the Chesapeake watershed had been enriched by observations of the remedies used by the Indians, and enabled him to find medicines for the scurvy and camp diseases which were more dangerous and threatening to the cause of liberty and independence than the fleets and armies of the English King, at a time when medical supplies could not be obtained from the regular sources, and when, without them, troops could not be called to check the advance of the invaders.

One of the first things this great physician did, was to protest vigorously and successfully against the intemperate use of rum. He developed and enforced a rigorous sanitary discipline among the troops. The people of that day appreciated the distinguished character of his services, and profited by the wisdom which fell from his lips and pen.

The foundation of preventive medicine, sanitary science, was laid by Benjamin Rush, in the studies he made of the epidemics which prevailed in Philadelphia during the last century, and of the dangerous diseases which affected the Colonial troops.

But the deeds of the heroes in the profession which you, ladies and gentlemen, have to-day entered, are not of a kind commemorated by the most enduring monuments devised by grateful men. Statesmen and military chieftains have cities and States, lakes and rivers, valleys and mountains named after them. It is singular to one trained in a profession as exacting as the one you have chosen, that fame and glory should be given to the men who slay thousands upon the field of battle, instead of to those who labor to save human life. This appears unjust. It would seem that the man who checks an epidemic, who invents and performs a surgical procedure which rescues thousands of human lives, ought to win fame as lasting as that of the man who conquers by force of arms.

Wellington, the soldier, rid the world of a tyrant; and wherever the English tongue is spoken, the name of Wellington is perpetuated and honored. Jenner, the physician, by valor no less heroic, rid the world of a plague.

Before Jenner's discovery of vaccination, small-pox slew thousands for every one slaughtered by Napoleon. Yet who ever heard of a Jenner Avenue, or even a Jennerville.

The people do not see the heroism of the doctor very long. It is said that republics are ungrateful. To the medical mind, the neglect of the American people to freshen the example of Benjamin Rush in the same lasting devices accorded to the generals and politicians of his time, is proof of the fact that republics are ungrateful.

For ten years the American Medical Association, which meets in this city next June, has been trying, without success, to influence a sufficient number of dollars to erect, in one of the beautiful parks of Washington, a statue on which shall be inscribed, "Benjamin Rush, a patriot, a physician." A bronze figure, life-size, is contemplated—a mere hitching-post in comparison with that lofty pile in the same city, erected by Acts of Congress, to exemplify the political and military glory of George Washington. But I am not here to lament the lack of appreciation which as a medical man and, I trust, patriotic citizen of the noblest of Governments, I feel the American people have shown for the memory of Dr. Rush.

There is an ancient rhyme which comes to us from

monkish Latin. In English it reads: "On the brink of danger, not before, God and doctor we alike adore. The danger o'er and all things righted, God is forgotten and the doctor slighted."

Medical historians tell us that this sentiment is of the most remote antiquity. It is, therefore, probable that the humble healer of wounds, the mere deviser of means whereby plagues may be banished from the homes of men, must continue his labors contented with knowing that he has made the journey through life easy and agreeable for his fellow-men.

After the war was over, Dr. Rush wrote copiously for readers in both the Old and the New World. On the one hand he extolled the fertility of our soil, the salubrity of our climate, the resources of our country. No writer of his time had more influence with thinking, industrious people of all countries. On the other hand, he argued the value of the Bible as a school-book, urged the establishment of the public schools and the virtues of temperance. His writings upon this subject place him among the earliest and foremost advocates of abstinence.

About one hundred years ago, addressing a class of graduates from the Medical Department of the University of Pennsylvania, on an occasion like this, he said: "Gentlemen, those of you who locate in the country, let me advise to settle on farms as soon as possible. The knowledge of chemistry which you have learned in the course of your preparation for the healing art is closely allied to agriculture. In the intervals of visiting your patients, you can occupy yourselves in teaching your fellow-citizens to develop the resources of our country."

Let me commend those words to you, ladies and gentlemen, with this addition: that your knowledge of physiology, of botany, and of the means of studying with your microscopes the minute causes of disease, will enable you to study, and perhaps cure or prevent, many of the infirmities which affect domestic animals, and the fruits and grains of the orchards and fields.

It is said that the diseases which affect the wheat crop in the United States cost the farmers fifty million dollars annually; money enough to relieve the distress of the people who are starving in Russia to-day.

Who is better qualified to study the habits of the fly that stings, or the germ that blasts the growing wheat, and apply a remedy, than the physician who is well trained in the modern methods of research taught in the medical colleges?

It was in Rome, when medicine was practiced by slaves, that members of our profession were compelled to practice their art in silence. But the success of the late war for independence, said Dr. Rush, has banished forever all slavish traits from our profession in the United States. It is not becoming of you to preserve an ignoble silence upon questions which affect the welfare of your country.

The sentiments uttered by our hero one hundred years ago are well worthy of our emulation to-day. In the conduct of the affairs of our country, mistakes will occur to you. I hope, gentlemen, those of you who find time in the intervals of attending to the numerous duties of your profession and the cultivation of your farm, will give some attention to the methods by which American citizens are made. I do not refer to the rapid transit manner in which the immigrant is converted into a voting machine. I am content to leave that to the practical politician. But we Americans urge, in our loftiest transports, that education is the bulwark of the State. And what is the State? Lincoln told us that it was this government of the people, by the people, for the people. And if education is the bulwark of such a State, we must insist upon an education and training for our children which guarantees to them ability to exercise intelligently, without the help of practical politicians, the duties of citizenship in a government of the people, by the people, for the people. I am afraid, gentlemen, if I may be permitted to burden you with my opinion, that the promoters of some of our systems of public instruction have lost sight of the principles maintained by the founders of our country. The immigration, the enormous influx of people from all the countries of the world, has, I fear, grafted upon our system of education vices which threaten to destroy the simplicity and the universality of the educational plans of our forefathers. The English-American, if you understand that term, wants our educational methods modeled after those of his native land. The German-American thinks our universities must be like those of Berlin or Vienna, Tubingen or Bonn. The Italian must have us resurrect and put new life, American blood, into the withered, aged university methods of Padua and Bologna. And the Sclave would have us copy after Warsaw and Moscow. The educational institutions of these semi-Americans are not maintained by governments of the people, by the people, etc. They foster and encourage wealthy and indolent educated aristocrats. Do we want to encourage by American educational methods an indolent, educated aristocracy? No! Then some of our institutions must be changed. The Commissioner of Education of the United States, dealing with data compiled from the census of 1890, shows beyond question or controversy, that a great struggle is going on in this country between large and small educational institutions. The great colleges and universities seek to crush the smaller ones. Columbia, Princeton, Pennsylvania, Michigan, Wisconsin and Minnesota make war upon the smaller colleges—war with the rapier, rather than the broadsword or the bowie-knife.

Let us see how this war is carried on. The universities are devoted to higher education. They conduct the post-graduate teaching. A very learned educator, who presides over one of the most thoroughly American and patriotic universities in our country, defines higher, or university education. He says, when asked where college work leaves off and university work begins, that it is where the required work stops and the selected work commences—meaning when an American knows what he wants to know, and is trained in the arts by which he can learn it, he should be admitted to a university. All of the warlike universities in our country are doing both required and selected work. The University of Michigan is dwarfed by the maintenance of its so-called literary department, and which is made the dominant feature of the institution.

Colleges like Hillsdale, Albion, Adrian, Kalamazoo; high schools like those of Detroit, Grand Rapids, Saginaw, for example, should do all the work of the literary department of the University of Michigan. Then the university might have ten thousand instead of two thousand pupils.

The foreign grafts upon our higher system of edu-

cation, the so-called higher standard, fosters an indolent, educated aristocracy. It is un-American, unpatriotic. Why? The boy or girl of this State finishes his or her academic or collegiate required studies, technically speaking, at 18 or 20 years of age. The university admits them, or those of them who have money and can afford the time. The university adds four years, and the student graduates at 23 or 24. If a trade is to be learned, two to four years must be added, making the student 24 to 28 years of age. If a profession is chosen, three or four years more must be added, and if a post-graduate course and foreign travel are needed to complete the training, the student will be 28 or 30 years of age when he is ready to start with others in the battle of life. Who, at 28 or 30 years of age, with the enthusiasm of youth drilled out of them, with the tedium vitæ developed in them, are fitted for anything but an indolent, educated aristocracy. A system of education which does this is un-American, unpatriotic. The common schools may require your constant attention. As physicians, you will early observe that the congregating of hundreds of children in vast buildings increases to a frightful extent the danger of contagious diseases.

In this the city of Detroit, which, as the metropolis, should set the example for all the smaller cities of the State, the opening of the public schools in September is the signal for the activity of the health department of the city government, and for enterprise among the undertakers. You should seek, by every means in your power, to break up a system of public instruction which is characterized by an increase of mortality among the pupils. The children are helpless; parents are ambitious for them; they know the value of an education; the laws require an attendance upon the schools, and as physicians and patriotic citizens you must use the knowledge which medicine gives you for the purpose of discovering means by which this mortality can be cut down. If you cannot cure the contagious diseases which are spread by the assembling of pupils in large numbers, you can prevent them by urging the establishment of smaller school buildings, with less money invested in brick and mortar and more invested in teachers. The fewer pupils the teacher has, the more likely will the teaching be individualized and adapted to the needs of the pupil, and the quicker will contagious diseases be recognized. Aside from the foreign relations of our country, no question more deeply concerns the thinking citizen than does the future of our public schools. Questions are arising on every hand concerning this problem of the most vital interest to all. Some people would have us believe that women are not in their proper sphere as teachers; as moulders of the minds of boys they are failures; that a boy, or a girl for that matter, needs the stimulus of the masculine mind for the highest development of their faculties. Others say that it is not right, and that the State should not require one whose children dare not attend the public schools for fear of moral contamination, to pay taxes for the support of schools, the curricula of which are not, according to their thinking, likely to advance their own religious beliefs.

The unfortunate differences which have developed in connection with religious training in the schools must be settled in a manner satisfactory to both parties.

This difference has been discussed, pro and con, by members of a sister profession mainly. Medical men have had very little to say about it. I can see no impropriety in a physician who studies the relations of morals to health taking side in the controversy. Let any medical man or woman who has visited the prisons and asylums observe how many of the inmates owe their presence there to inherited and acquired defects of mind and body, and he will be convinced that some attention should be paid to the moral training of pupils in the public schools. The simple teaching of ideas of time, place, form, consistence and numbers is not sufficient to make a competent citizen of every child. Ideas of right and wrong should not be left entirely to nature, uninfluenced by art, every physician knows. Witness the pitiful examples of persons in this city who have been convicted of offenses against the people and sentenced to the House of Correction more than fifty times.

Medical men know that the causes of such repeated and persistent immorality are indelibly marked upon the adult brain; that such cases cannot be cured, but may be prevented, in many instances, by proper training during childhood.

There is one other matter that the physician, in his capacity as a diffuser of information, should have thoroughly in mind. His wealthy patients may consult him in regard to the final disposition of their wealth.

He should be prepared to take a liberal view of affairs, to have a broader and wider-reaching mind than the man whose life has been devoted solely to the accumulation of dollars.

Some people have riches thrust upon them. It not infrequently happens that a turn of the market, or the invention of a labor-saving device, yields a fortune of vast proportions to an American citizen.

The holders of vast wealth do not always claim to be absolute possessors of the sums which they have accumulated or, as some would say, appropriated by fortunate handling of the labor of others. They are sometimes anxious to dispose of portions of their holdings for the benefit of their fellow-men, and ask the doctor for his views. What school shall be endowed, what art museums to build, what parks to be laid out, asylums and hospitals to be built, are questions asked him.

The physician should always be familiar with the needs of the masses of the people, for the poor are his best patients, because God pays him for taking care of them.

Therefore, my friends who are about to commence the practice of the art you have learned of your Alma Mater, you will find yourselves brought closely into touch with all that is great and noble in the ideas and customs of the people of the United States.

Let me urge you not to forget the words of Dr. Rush, that the American Revolution has rescued medicine from its former slavish rank in society, and to appreciate at its full worth the exalted position your admission to a useful profession insures to you.

In illustration of the relative social standing of medical men here and in some countries, let me relate that within the last few years I read in a leading foreign medical journal a letter written by a foreign physician, in which the writer asks if it is not time that a physician, when called to the sick in great houses, be permitted to ring the front door bell and enter, and not be compelled by etiquette to enter the house through the servants' quarters.

Let me, before closing, call your attention to the fact that there are some diseases which your science and art may be unable to cure.

Your most thoughtful prescriptions and most carefully planned and executed operations may result in failures mortifying to your friends and to yourselves, but do not be discouraged and give up hopes of ultimate success. Keep right on, with all the power and determination you possess, trying to relieve the sufferings of your patients, exhausting every resource which science shows to be safe and applicable to the case.

Let me explain to you that the profession you to-day enter has been very liberal with you. It has taught you its methods, revealed to you what it knows of the intricacies of the human frame.

The burden of payment is now on you. The profession will expect you to add something to the sum of knowledge by which human infirmities are healed. You must avail yourself of every opportunity to study disease and its remedies.

I would advise you to maintain a laboratory, in which you can employ the instruments of precision by means of which the science of physiology is advanced and the mysteries of diseases are revealed.

Who knows but you may find a symptom, demonstrate a germ and invent a surgical procedure which will enable you to prove to the profession how cancer can be cured?

In your researches, do not forget the lessons you have learned from the vegetable kingdom. Who knows but you may some day discover, growing in the fields or forests, a flower that will cure consumption, and rid mankind of its most exacting and relentless foe?

REPORT OF THE SURGICAL CLINICS,

Held at the Western Pennsylvania Hospital, before the Students of the Western Pennsylvania Medical College,

BY PROF. J. B. MURDOCH.

[Reported by E. E. Wible, M.D., a member of the Graduating Class.]

(*Concluded from page 420.*)

TREPHINING FOR INJURY TO THE HEAD.

Here is another very interesting case. This young man was found along the Alleghany Valley railroad track last night, in an unconscious condition, due to some injury of the head. When he arrived here in the hospital, he was not paralyzed in any of his muscles but vomiting, pupils were equal. This morning he is paralyzed on one side and convulsive on the other. The left side is paralyzed and the leg and arm of the right side he is constantly throwing and tossing about. The question is whether it is due to concussion or compression. When paralysis is present immediately, from the time of an accident to the head, it is due to depressed bone, when it comes on gradually sometime after an accident, it is due to a blood clot and when it comes on in a week or so, it is due to inflammation or inflammatory products. You observe the sterterous breathing in this case, which is one of the signs of compression. The compression may be due either to the pressure of blood or depressed bone. It was the habit of older surgeons to cut away the scalp entirely when the trephine was to be applied and it has been only within the last one hundred years that the scalp was retracted, being introduced by a surgeon by the name of Hay.

I now cut down on the right side of the frontal bone, avoiding the temporal muscle as much as possible, but I find no depression or fissure here, hence I will trephine over the fissure of Rolando, because of the good results I have had from every case that I trephined at that point. The method of determining the surface marking of the fiissure of Rolando, I have described to you at previous operations. After having raised the pericranium with the scalp, I remove a button of bone here but do not find any clot between the dura mater and the skull, which I thought I might possibly find. I am going to do in this operation what I have never done before, that is, as soon as the button of bone was removed it was put in a solution of bichloride of mercury (1-500) and when I am ready to sew up the scalp I will break it into a number of pieces and replace it in the opening. I will now make an opening over the anterior and inferior part of the right parietal bone, where a clot often forms from injury to the middle meningeal artery. I have now removed a button of bone here but do not find a clot.

I now replace the button of bone I have removed, dividing one of them into four pieces and the other into about a dozen fragments. I insert some strands of catgut for drainage and unite the angles of the scalp with wire sutures and the remainder of the scalp incision with catgut sutures. I apply the usual antiseptic dressings and hold them in position by a six-tailed bandage, which is better than a skull cap, although not so neat. He has been given a hydragogue cathartic, anticipating inflammatory action. Although we have not found anything by trephining this patient, yet we hope we will have done him good by relieving pressure and that he will thus be benefited, as all the other cases I have trephined.

ANOTHER CASE OF TREPHINING.

This man, æt. 36, a silver miner by occupation, has always been healthy and never had any severe disease except lead-poisoning.

In February, 1888, he received some injuries to his head while mining and lay unconscious for fifteen days, and for eight weeks he was in a delirious condition. In the latter part of the summer he went to work again. He complains mostly of double vision. About two years ago he was in a New York hospital under treatment but received no benefit. In June 1890, he went to Arizona again and worked four months.

Dr. Seguin, a specialist on nervous diseases, of New York, writes me that he thinks the trouble is due to lead poisoning and advises the administration of potassium iodide.

I find a depression of the scalp and skull over the left parietal bone and I propose to trephine at that point. I make a horse-shoe incision and turn back the scalp and in doing so I find the scalp very adherent to the skull. Having now retracted the scalp you all can see the depression of bone. I apply the trephine, remove a button of bone and find the dura mater adherent to the skull and of a hardened and thickened feel. I now insert a rubber drainage tube, close the scalp wound and apply the ordinary antiseptic dressings.

February 7, 1891.

Review of some cases operated on:

Gentlemen:—The first case I bring before you to-

day is the man from whose skull I removed a button of bone, one week ago to-day.

His right arm has improved since the operation, having less twitching thereof, and his mind is less confused and clearer now.

You will remember this as the man who got hurt in the silver mine, while employed therein; he says he feels much better but is still a little nervous, of which he complained considerably before he was operated on.

The wound has not been dressed since and we will renew the dressings to-day. You can see there is not a particle of suppuration in the wound, and that it is almost entirely healed.

I am now going to show you two cases of Symes amputation of the foot. It was the custom, before Mr. Symes advised this operation, to amputate at the so-called "point of election" for nearly all injuries of the foot requiring amputation. There are three classic operations on the foot viz: Hey's, Chopart's, and Symes', while there are as many as thirty other operations performed on the foot.

In Hey's operation, we amputate at the tarso-metatarsal joint and saw off the projecting internal cuneiform bone.

Lisfranc's operation is the same as Hey's, with the exception of not sawing off the cuneiform bone. Chopart's, or the medio-tarsal operation, in this the scaphoid and cuboid bones, with all the parts in front of them are removed. The objection to this operation is, that the flexor muscles of the foot are severed, and consequently the tendo Achilles draws back the stump and it may thus become necessary to divide the tendo Achilles.

Symes' operation is the amputation of the foot at the ankle-joint. There is another operation known as Pirigoff's in which the entire foot is removed except the posterior part of the oscalcis. The first one of these cases is the old gentleman, on whom I operated three weeks ago to-day.

You remember, there were a number of sinuses running up the leg and it was a question whether to amputate the leg or at the ankle-joint. You see he has now a good solid stump notwithstanding the diseased condition of the leg at the time of the amputation.

By thus preserving the hard tissue of the heel, this man will be able to walk on it and need not be encumbered by an artificial limb in his occupation, that of a coal-miner.

Although, artificial limb manufacturers, say that they can adjust an artificial limb better and secure better satisfaction when an amputation is performed some distance above the ankle-joint, yet, generally speaking, the Symes' amputation is the better to perform.

This second case of Symes' amputation was operated on five weeks ago to-day; he is able to bear some of his weight on it already.

The next case is the boy from whose leg I removed a large tumor, and which I think was a sarcoma. I want to show him to you before he goes home. You remember we were advised by some to amputate the limb, but we removed the tumor, which was not adherent to the bone, and his leg is now well and needs no more dressing. He is able to walk about as well as usual. I find no evidence of any return of the growth in the cicatrix; he complains of a severe headache of which I am unable to give a cause.

OPERATION ON A DISEASED ELBOW.

This young lady received a contusion on her elbow joint two years ago; soon thereafter it suppurated and opened.

Last May I excised the joint without benefiting it much.

It is quite probable that it is tubercular disease of the joint. And it is just such a case in which the Koch lymph might be beneficial if we had it, because it is external and you could get rid of the bacilli. All I propose to do is to open the sinuses and to scrape them out. In wounds of this kind where the sinuses are filled with pus, we cannot always prevent septic processes from taking place in the wound.

I apply an Esmarch's bandage because I think in operations upon bone it is very necessary, so as to keep the blood away that you may be able to see the bone on which you are working.

I will bite away all the dead or diseased bone. In all operations on the elbow joint when you fear ankylosis, put up the arm in a right angle, or a splint a little more than a right angle, so that if ankylosis should occur the patient will be able to get his hand to his mouth.

I have now removed all the dead bone and I think we may probably get motion in the joint if it gets well at all.

I close the wound with wire sutures, apply a splint that is almost straight and which can gradually be brought to a right angle by a screw arrangement which connects the two parts of the splint. It will thus be allowed to remain for a week if there is no elevation of temperature, and the dressings do not become soiled.

NECROSIS OF THE HUMERUS.

This young man was run over by an ingot car at Braddock thirteen months ago, sustaining a compound fracture of the left thigh and a fracture of humerus near the shoulder. This is an interesting case and I want you to observe the deformity of the thigh; the upper fragment is behind and internal.

The limb is four inches shorter than the other. Fractures at this point of the femur are very likely to result in deformity. I do not know how or who treated this fracture but it is likely that all was done for it that was possible.

I am told it was treated on a double inclined plane, a method that is not much employed nowadays, the method of extension and counter-extension having about superceded it.

There are openings in front and behind the arm where the fracture had been, which are discharging some pieces of bone.

I cut down and remove a splinter of bone over an inch in length and scrape the sinuses with a Volkmann spoon. I now insert a small drainage tube clear through the arm, close the wound and apply the usual antiseptic dressings.

February 14, 1891.

CRUSHED FOOT.

Gentlemen:—I only bring this patient in that you may see his foot while it is being redressed.

He had his foot crushed ten days ago by being traversed by the wheels of a railroad engine. The toes were crushed and when he was brought to the hospital, the resident physicians amputated his toes but preserved all the metatarsal bones, thus pre-

serving the arch of the foot. When the arch of a foot is destroyed in any way it sadly impairs the usefulness of it.

Some of the flap has sloughed on account of its being made of injured tissue; but it is healing well now.

It is not a good plan to amputate too much of the tissues of a limb when it has been injured, but it is better to wait and see how much will slough. But if it is possible for you to tell how much of the tissues will slough, then amputate all such at once.

In this case we use the warm, moist antiseptic dressings, covered over with some impervious material, as oiled paper, or oiled silk, to retain the heat and moisture. It was formerly the custom to use hot poultices of bread and milk, flaxseed meal, etc., all of which were filthy and veritable hot-beds to breed germs of disease.

OPERATION ON NECROSED BONE.

This boy comes to us with the skin over the shin-bones reddened and inflamed and openings running down to the bone, from which pus is coming. We learn from his history that he has always been healthy until four years ago, when he had an attack of inflammatory rheumatism, which lasted four months.

I introduce a probe into these openings, called cloaca, and come at once in contact with dead bone. These openings were usually called fever-sores some years ago, because of their being due to the periostitis following typhoid fever. Other causes are, injuries to the periosteum, wounds, syphilis, and the cachexia, which was formerly called scrofulous.

Periostitis consists in a swelling of the periosteum and becoming thickened by the production of inflammatory lymph, thus cutting off the blood supply to the bone and causing necrosis of the same.

The treatment is to cut down through the periosteum in the early stage so as to relieve its tense condition and give exit to the fluid underneath it. On the tibia at about its middle is an enlargement called a node. I apply an Esmarch bandage, and then make an incision along the tibia, cutting down through the periosteum. I now push aside the periosteum with the periosteotome and find several openings in the bone. I will now trephine over one of these openings and connect the others with it by the chisel and mallet, and now having done so, I come on to a piece of bone which is called the sequestrum. I remove it and scrape out the medullary cavity. When the skin unites over this wound, it will be somewhat inverted or depressed.

Mr. Shea advises the sewing up of this kind of a wound without any drainage, and sewing it tightly, believing that the clot which collects, organizes, and that healing is more rapid. This, probably, may be true, if you were sure that there is no infectious material in the wound. I pack some bichloride gauze in the bottom of the wound to secure drainage, sew up the wound with continuous catgut sutures, and apply the usual antiseptic dressings.

Now on introducing a probe into the cloaca over the tibia of the other leg, I come down at once to bone that is denuded of its periosteum. I make an incision along the tibia as in the other leg, cut down into the medullary cavity with the chisel and mallet, remove some sequestræ of bone, and scrape out the soft and diseased bone. I now pack the bottom of the wound with bichloride gauze, sew up the wound and apply the dressings as in the other leg.

February 19, 1891.

GUNSHOT WOUND OF THE HEAD.

As Prof. King has telegraphed me that he would be unable to be present at his clinic to-day, I will take this opportunity to show this man who was found on 29th street last night, in an unconscious condition, and brought to the hospital. It is rumored that he was followed from a saloon by some colored men and shot by one of them. Dr. Graham, the resident physician, found two wounds above the left eye, one a small wound with inverted edges, and the other about three-fourths of an inch above, and more lacerated than the former. The man has what is commonly called a "black eye." He was in a stupid condition all night and he is now reviving, although yet unable to give any account of the affair. I will make a few remarks regarding such wounds as this. In gun-shot wounds the wound of entrance is always inverted. It is generally supposed by the laity to be your duty to probe at once for the bullet when you are called, but by doing so you usually do more harm than good. It is said that Andrew Jackson carried a bullet in his leg for twenty years, having received it in a duel, and did not have it removed until during his term of the presidency. I have adopted this rule:—to let such wounds alone when I am first called to see them. Never make any search for a ball until you have instruments and everything else in readiness to extract it. It is well to find out the history of the injury, the position of the patient when shot and in what direction the bullet came, for the reason that you can seldom tell the direction the bullet took by the appearance of the wound. Bullets usually pursue a very peculiar and circuitous course in the cavities of the body. They have been known to have one point of entrance and two of exit, having been split by coming in contact with a bone in its course through the body. My impression is that the bullet entered at this small wound, rebounded from the skull and emerged from the larger wound a little above.

I intend to ascertain if there is any wound to the skull; for that purpose I reflect a flap of the scalp but find there is no fissure. If the bullet had entered the skull I would have applied the crown of the trephine, removed a button of bone and then taken out the fragments of bone. I now unite the wound with wire sutures and dress it antiseptically.

February 21, 1891.

COMPOUND FRACTURE OF THE THIGH.

Gentlemen:—I have a number of cases to show you to-day and also one or two operations.

This young man before you, I operated on in your presence on Jan. 24, 1891. It is a case of conservative surgery, which well illustrates antisepsis and drainage. He was brought here from Greensburg, with a compound fracture of the thigh which he received while coasting on Christmas day. He was treated at his home for about three weeks, and when he was brought here he had a high fever, his thigh was infiltrated with pus and he had a large bed-sore on his back. After a few days of tonic treatment I operated on him, excising the ends of the bones, wiring them together, and inserting a large drainage tube. I also removed a number of fragments of bone from the wound. After the operation his temperature de-

creased, his appetite returned and he says he feels very well now. You see the wound is covered with healthy granulations and is almost closed. There is still a false point of motion in the limb. The wire is still in position and will be left there. The wound is dressed daily with a solution of carbolic acid (1-40). He had a bed-sore almost as large as a hand and almost exposing the sacrum when he came in. You see it is now almost healed. I regard this a greater triumph of surgery than when an amputation is performed. His limb of course will be three inches shorter than the other, which will cause a slight limping.

URINARY INFILTRATION.

There were four or five cases of rupture of the urethra came to the hospital within the last few weeks with extravasation of the urine. It seems that when a certain kind of injury comes in there are almost always several of the same kind come in within a short time. It is strange how a urethra is ruptured; sometimes a wagon passes over the pelvis, rupturing the urethra and not fracturing the pelvis. The usual history of a case when the urethra is ulcerated from a stricture is as follows: first a gonorrhœa lasting for some time, then difficulty of passing the urine until some day can not pass it at all and thus have retention of urine, then while straining to pass urine the urethra is ruptured posterior to the stricture and the urine infiltrates into the tissues instead of remaining in the bladder. The urine then acts as an irritant or poison and may cause sloughing of the tissues. The first thing to do in such cases is to let out the urine by free incisions. The question arises, why does the urine pass up over the abdomen instead of down the thigh? The answer is that the deep layer of the superficial fascia of the abdomen is attached to the triangular ligament and on each side to the ramus of the pubes and ischium, and to Poupart's ligament in front. It extends forwards and is continuous with the dartos of the scrotum and then extends up the abdomen. The urine being prevented from infiltrating into the thigh by the attachment of the fascia to the ramus of the pubes and ischium and to Poupart's ligament.

This man fell a distance of 25 feet, a few weeks ago, injuring his back and fracturing the astragalus of the left foot. Ever since the accident he had to be catheterized every two hours, or it would cause him much pain and distress. I propose to make an incision into the membranous portion of the urethra for the purpose of draining the bladder. The operation will be the same as that of median lithotomy. I will introduce my left forefinger into the rectum till its tip touches the prostate gland, then insert a bistoury one-half inch in front of the anus and carry it in till it gets in the groove of the staff, then enlarge the wound as I withdraw the knife. The assistant will hold the staff directly in the median line and perpendicularly, lightly hugging the pubic arch, and by the left hand hold the scrotum out of the way of the operator. Now having done the operation as stated I have my finger in the bladder. I will wash out the bladder with warm Thiersch's solution and will insert and allow to remain in it a drainage tube. I now pack the wound with some gauze; put on a compress and apply a "T" bandage.

ANOTHER CASE OF EXTRAVASATION OF URINE.

We are unfortunate in not having a history of this old gentleman. He was brought in last night, his penis and scrotum much swollen and also extravasation of urine up the abdomen, the result of a stricture or injury. The cellular tissue of the scrotum is in a condition of gangrene. The indications for treatment are: 1. to permit the escape of the urine from the tissues. 2. To allow the urine to escape posterior to the stricture. There is no retention of the urine here because it has found some way of escape posterior to the stricture. I will first incise the foreskin because I cannot retract it over the glans. I do it with a probe-pointed bistoury which may be either curved or straight. I have endeavored to find the internal opening of the urethra; but find it I cannot. I make an incision on either side of the scrotum, which I find is full of pus. If we can keep him alive until he gets over his present depressed condition we may be able to effect a cure. The parts will be dressed with moist antiseptic gauze and covered over with oiled paper.

ABSCESS IN THE PERINEUM.

This colored man has been sick three weeks. When he came to the hospital a few days ago, a small tumor was found behind the scrotum, and the bladder was distended. The resident physician opened the tumor in the median line, and 32 ozs. of pus escaped. After this he could be catheterized, and his urine has thus been drawn off ever since.

I next present the gentleman I operated on three weeks ago, and removed a button of bone from the left side of his head. The patient had been suffering from peculiar nervous sensations and trouble on his right side. It has healed now so solidly that you could not tell by feeling that a button of bone has been removed. He is not entirely well; but he says that he is much improved.

EPILEPTIFORM CONVULSIONS.

This boy, æt. 19, a miner, suffers from epileptiform convulsions. His family history is good, except two sisters who had fits until they were about 24 years of age. This boy never had any sickness to confine him to bed. Ten years ago he fell 40 feet, alighting on a railroad track and receiving a large scalp wound on the right side of his head. Ever since the accident he has had headache. The toes of the left foot drag on the ground unless he makes considerable effort to lift them. Thirteen months ago he commenced to have convulsions, sometimes having four or five a day, and again sometimes going for four weeks without them. The scar is a little to the right of the median line, over the frontal bone. I intend trephining him, if I find a depression of the skull after I have turned back the scalp. I make a large horse-shoe-shaped incision, and find the scalp very adherent to the skull. I loosen up all the adhesions that have been caused by the injury. Even the mere loosening up of an adherent scalp like this has proved of much benefit to the patient. I will not now do anything more, and if we have not benefited our patient, we will remove a button of bone over the fissure of Rolando at a later time. I now sew up the wound and apply the antiseptic dressings.

March 14, 1891.

EXTERNAL PERINEAL URETHROTOMY.

Gentlemen:—I will bring before you to-day a patient who was hurt five weeks ago in a mill, by being caught between a heavy truck and a post, and sus-

tained a fracture of the pelvis and rupture of the urethra. He was sent here for rupture of the bladder. When he came into the hospital he was suffering from shock, and bleeding from the meatus. A catheter could not be passed at that time. He was put to bed and bottles of hot water applied, and a short time afterward a catheter was passed. At one time he was able to pass his urine without the catheter. His symptoms of late have not been improving, his urine becoming more and more ammoniacal, and within the last few days there appeared a red, shining tumefaction along the right inguinal region, indicating the extravasation of urine into the tissues. The appearance of blood at the meatus showed that it was a rupture of the urethra and not of the bladder, for in that case the blood would have extravasated into the tissues.

On introducing an instrument into the urethra, it enters a false passage at about the triangular ligament, and deflects to the left. I propose to do the operation of external perineal urethrotomy, opening the urethra in front of the laceration, so that the urine can find exit externally. The laceration seems to be posterior to the deep layer of the superficial fascia. If the urine is not let out of the tissues, sloughing is inevitable. The parts are thoroughly washed and shaved. If I am able to pass a staff of a good size into the bladder it will very much facilitate the operation. I was able yesterday to get in a good-sized instrument.

I think I have now succeeded in introducing the staff into the bladder.

The patient is now placed in the lithotomy position. I make an incision in the median line or raphé, about an inch in length, cutting through the skin, superficial and deep fascia. I find we have our staff in the false passage instead of the bladder. I have now my finger in the bladder, and we will wash it out with warm Thiersch's solution, which is not irritating, as the other antiseptic fluids are. Its formula is as follows:

℞. Salicylic acid, ʒss.
Boracic acid, ʒss.
Aquæ, Oviij.

It is hardly necessary to put in the bladder a drainage tube; but we will at any rate, and wash it out every day, so as to keep his bladder drained of the foul-smelling fluid which we have allowed to escape from it. I now incise the tumefaction on the right of the scrotum, and find there has some pus formed already. I now cleanse the parts thoroughly, and apply the antiseptic dressings, allowing the drainage tube to protrude through them.

These wounds are troublesome to deal with. Two years ago, a miner was received in the hospital, and had his urethra ruptured about the same as this man before you. I operated on him the same as in this case, and he remained here for six months. He received his injury by a bank of coal falling on him, while he was working on his knees, and buried one heel in his perineum.

These lacerations of the urethra are liable to result in stricture, especially if they are transverse; the longitudinal incisions that are made in urethrotomy, however, do not.

Creosote for Influenza.—Iselin (*Corr.-bl. f. Schw. Aerzte*) recommends creasote in doses of from fifteen to seventy-five minims daily in the treatment of influenza.

SURGICAL CLINIC, AT THE HARLEM HOSPITAL, NEW YORK.

BY DR. THOMAS H. MANLEY.

[Reported exclusively for The Journal of the American Medical Association.]

Gentlemen:—You will remember, in the notice of this clinic, it was announced that among other operations which we would proceed with to-day, was one of abdominal section, for the removal of an interstitial fibroid of the womb; an abdominal hysterectomy, so-called. Well, here is the patient before you; and, while we must congratulate her on her escape from the perilous ordeal which was before her, we are sorry to have disappointed you.

But, it seems to me, that the history of this case and the simple means by which she has been rapidly and radically relieved of her infirmity, are by far of more practical value than would be any operation, which would involve the loss of blood and an extensive mutilation. Her history is briefly this: she is 43 years old, free from any organic disease, and had good general health until a little more than three years ago, when simultaneously with a dragging pain in the back and loins, she noticed an unusual fullness over the uterus rather toward the left side. She failed to see her physician concerning it, for nearly two years; when it had so increased in volume as to greatly inconvenience her and aggravate her pains. At this time, and for some time before it, she was having a copious metrorrhagia, between the catemenial epochs, which greatly emaciated and exsanguinated her. Her medical attendant has very patiently and thoroughly employed all the modern remedies, local and constitutional. She derived no benefit from any, except electricity, which, after each séance, greatly eased the pain. However, it made no impression on the neoplasm or her exhausting hæmorrhages. Hence, as her health was steadily giving way, and she was incapacitated from doing any work, she was willing to submit to anything which offered her a promise of cure. And her physician, Dr. Nivison, of this city, a highly skilful practitioner, decided that a hysterectomy was the surest means of effecting a cure; though when he handed the case over to me, he requested me to use my own judgment, and deal with it as I thought best. I shall not say anything about differential diagnosis here, but will ask your attention to the various methods employed, when we treat these uterine myomata, by direct, surgical intervention. They, as you know, are chiefly of two kinds; viz., palliative and radical. Among the former is the removal of the ovaries and ligation of the uterine arteries. The latter, are the removal of the uterus and tumor, by the abdominal or sacral incisions; their total removal by morcellation, as instituted and first extensive practiced by Pèan, of Paris; and, thirdly, the removal of the myomatous mass, down through the cervical canal without any serious injury to the uterus, a method first successfully instituted by myself, in America, for the evulsion of very large uterine, neoplastic growths. After having successfully operated last year for the removal of a uterine myoma, taking away womb, ovaries and all, on a careful examination of the specimen, we found that the growth might have been readily removed through the vagina, as was a very large, supposed inoperable tumor, of this description, removed by me, three years ago. Now, the removal of the ovaries is not in itself free from

danger, and they may be so bound down, or dragged under the uterus, as to be beyond our reach. But, what is the worst of all, their removal may in no way influence the growth of the mass. Ligation of the uterine arteries, when the cervix is drawn far up into the pelvic cavity, is impracticable; while, if attainable, the compensating dilatation of the ovarian vessels, will in a short time, make up for the occluded uterine arteries. It is unnecessary to remind you that every sort of operation undertaken, with a view of removing a large adherent uterus and tumor, is attended with great danger to life; and, with the most expert, is full of difficulties, besides many may be even impracticable.

Hence, in this case, before we proceeded to do a hysterectomy, we first essayed to relieve our patient of her tumor by the utero-vaginal passage.

The cervical canal was gradually, but widely opened by the use of tents, when two fingers could be introduced into the uterine cavity. Now, on the left side, the uterine wall was felt compactly occupied by a large granular mass in its center, with an extensive capsule, which by adhesive inflammation was glued to the entire endometrium. It was a homogenous mass and seemed to consist of mixed elements. Little further was done, at the first sitting. After a few days, dilatation, thorough irrigation and drainage, having been kept up, she was again placed on the table, when with the use of the volsellum-forceps, the long scissors and the curette, every remnant was swept away. The result has been, as you see, the uterus which two weeks ago, was as large as a cocoanut, is now of its normal size. There is no more pain, no more morphine eating, and to-morrow, or the next day, she will leave the hospital.

The next case which I wish to show you, is one of incarcerated, umbilical hernia, in a woman. She is 40 years old, has had four children. She first noticed this shortly after the birth of her last child. She comes to us for relief; because for the past year she can do no work, without having symptoms of strangulation, and is compelled from time to time to take the bed, and apply soothing applications over the inflamed protrusion. You will notice that the hernial mass is large, doughy, and but partly reducible. This species of hernia is the only one, that I am acquainted with, which appears to ever arise as a consequence of the parturient effort in women. Although these extrusions in this situation are commonly designated umbilical, in fact, they rarely are so, as they usually commence to form in the linea alba immediately above or below the ring and after their emergence insinuate themselves under the thin umbilical scar. One anatomical peculiarity about them, well to remember, is, that they have no sac.

In this case, my aim will be to freely expose and detach the displaced viscera. If the omentum is present, in excessive quantity, it will be ligated and cut off. After having returned the hernia, I will secure a complete and entire peritoneal covering in it and then close in the overlying structures by the continuous silk suture. The remaining parts will be closed in with catgut, layer by layer. No drainage will be employed.

The next patient is a man, on whom we will perform an amputation of the thigh. As his case is quite a unique one and conveys many useful lessons, it may repay us for the time consumed, to rehearse part of it. Six days ago, while adjusting a belt on a pulley, he was caught and dragged up, over a swiftly revolving shaft, and thrown about twenty feet. When our ambulance surgeon, Dr. Arch. Dixon, saw him, he was in a state of collapse and he feared he would not reach the hospital alive. However, he slightly reacted. When I saw him, two hours after the accident, I discovered that he had a dislocation of both knee-joints; the condyles of each femur being driven downward posteriorly and the head of the tibia upward and forward. The crucial and posterior ligaments, with the popliteal muscle, were completely torn through. Besides, he had a compound fracture of the right humerus close to the axillary space, on the same side, fracture of the shafts of five ribs, in their centre.

The luxated bones were easily replaced; but, as their ligamentous connections were destroyed, on the least movement of the limb, they at once slipped out of place again. We found that the best position that we could place the knees in, and which gave the most comfort, was by having them semi-flexed under pillows. The superior fragment of the broken humerus was drawn far inward, by the unopposed pectoralis major muscle; while its sharp-pointed end threatened to pierce the integument. The fractured ribs were not much displaced. Singular to say, that notwithstanding the terrible violence which the body had sustained, he reacted well and the following morning was in a fair condition. Both lower extremities from the patella downward were cool and showed unmistakable evidence of injury to their vascular supply. When we bear in mind that the popliteal artery lies close to the inter-condyloid space; that its sheath is firmly retained in position by a dense fascia, and that it is all the more fixed by the large terminal branches, which it gives off here, we can the better understand how a complete luxation at the articulation is impossible, without seriously compromising the integrity of this vessel.

We now, by the use of hot bottles, hoped to avert the necessity of amputation, by endeavoring to favor collateral circulation. We were partly successful on the right side: but indubitable signs of dissolution in its fellow, appeared on the third day; and we should have amputated sooner had we consent to do so. Now, you will notice that the limb has a pale and shrunken appearance and that there are many patches on the surface of the integument, which resemble so many eschars, from burns. During the past twenty-four hours, gangrene has rapidly advanced towards the body, so that now it has reached the middle of the thigh, hence, no doubt, the best course to pursue, would be to do a hip-joint amputation, but his general condition is so feeble that I fear the immediate consequences; accordingly we will carry the amputating knife through the upper third. You will notice that the opposite limb, though warm, has a bloated and ominous appearance.

Now a word about flaps, in amputation, before we commence. The only safe guide to surgeons in flap-making, is experience. Too much tissue is as bad as too little, for we will have a slough; though it is always best when we select, to cut freely, so that, if there is a redundency, it can be later trimmed away. It is only in pathological conditions, arising from a constitutional origin, that we can safely apply the classic amputation of the text-books. In traumatisms, they may be wholly ignored; for the end which a conscientious surgeon should always have in view,

is not a handsome, but a strong and useful stump.

NOTE.—Patient operated on for hernia is making an excellent recovery. The man on whom the amputation was performed developed septicæmia and died three days subsequently.

LECTURES ON GENERAL ETIOLOGY.

Delivered at the Chicago Medical College.

BY H. GRADLE, M.D.

LECTURE V.

a. In illustration of secondary diseases *produced in a mechanical manner* may be quoted the remote pressure effects of new growths, aneurysms or tumefactions of any kind. If the pressure is exerted upon nerves it leads to their atrophy; if it involves tubular organs like the intestines or the ureter it is followed by the consequences of their obliteration. Another mechanical instance of secondary affection is the strangulation of the intestines by peritoneal adhesions. Stenosis of the nasal passage can cause mechanically hypertrophic changes in the naso-pharynx and Eustachian tubes, which often become complicated by subsequent infections. Interference of respiration on account of enlarged pharyngeal or faucial tonsils may lead to deformity of the thorax and possibly even spinal curvature. A secondary disease of mechanical origin is also furnished by the detachment of a clot within the circulatory system and the subsequent embolism of a terminal artery. Under this aspect may also be included fat embolism resulting from crushing or disintegrating disease of the marrow of bones.

b. Secondary diseases *produced by an influence upon the nervous system* comprise the so-called reflex neuroses. It is perhaps difficult in this group of secondary troubles to draw an absolute line of distinction between mere symptom and secondary neurosis, but too fine a distinction is of no practical account. For instance, we would ordinarily speak of cough as a mere symptom of disease of the respiratory passage, but if we encounter a case of distressing spasmodic cough due to a comparatively insignificant lesion like a shrunken tonsil, it is perhaps more practical to consider the coughing spells as a reflex neurosis, inasmuch as the lesion causing the reflex requires a certain combination of circumstances to produce this effect. It is altogether illogical however, to consider a neurosis like asthma a mere symptom of nasal disease, as it consists of an occurrence which results only occasionally from a combination of circumstances.

The clinicist uses the term reflex neurosis in too wide a sense. Physiologically we mean by a "reflex" the activity of centrifugal nerves in consequence of the stimulation of sensory nerves. Winking, for instance, is a reflex movement following irritation of the conjunctiva, and accordingly spasm of the lids caused by conjunctival disease may properly be called a reflex neurosis. But a neuralgia dependent on nasal disease is not a reflex at all, although often called so by clinicists. It would be better to limit the term reflex neurosis to motor or secretory activity and vascular changes induced in a reflex manner, and to call sensory disturbances due to peripheral disease, "sensory neuroses of peripheral origin."

Amongst the reflex neuroses, we encounter in the first place instances which are but the morbid exaggeration of normal reflexes. Thus, optic defects of the eye may cause tonic spasm of the ciliary muscle; conjunctival disease may be followed by blepharospasm. Nasal anomalies may induce sneezing fits and pharyngeal lesions spells of spasmodic cough. In other instances physiological reflexes may be exaggerated in extent as well as in intensity, as for instance when eyestrain or conjunctival disease results in twitching not merely of the lids, but of all facial muscle, amounting to facial chorea, or when pharyngeal irritation induces spasm of the larynx in the form of laryngismus stridulus.

But amongst the reflex neuroses we meet finally with occurrences which have either no physiological prototype at all or represent reflexes exaggerated beyond all resemblance to the normal condition. Types of these morbid reflexes are choreiform movements in consequence of ocular anomalies or naso-pharyngeal disease, asthma as the result of nasal affections and epileptoid convulsions from peripheral irritation, be it in the nose, in sensitive cicatrices or, most frequently of all—in the diseased intestinal tract. Some clinicists have refused to consider these instances as reflex neuroses, but their arguments are based on misconceptions. There is indeed a chorea which has no peripheral origin, but represents a disease of nerve centres. But if we encounter besides, cases of choreiform movements which can be stopped by the relief of morbid conditions in the eye or nose, we must consider those cases at least as of peripheral origin. Similarly, we cannot escape the conclusion that certain epileptiform convulsions, which cannot be distinguished clinically from genuine epilepsy, are of a reflex nature, if the successful treatment of morbid nasal or intestinal conditions puts an end to the occurrence of the spasms. But this observation in no way denies that real epilepsy is a disease of the central nervous system of different character. The same reasoning applies in asthma. Asthmatic attacks occur in bronchial, cardiac and renal diseases, but there are besides numerous instances of asthma which can be cured by the removal of nasal anomalies and which do not return except when the nasal disease relapses.

As other instances of reflex neuroses may be mentioned, vaso-motor disturbances in the skin, facial urticaria, and circumscribed cutaneous œdema in consequence of nasal irritation, the occurrence of exophthalmic goitre with cardiac palpitation likewise due to nasal disease.[1] Cardiac palpitation and other cardiac symptoms may also represent a reflex neurosis of intestinal origin.

Sensory neuroses of peripheral origin are illustrated by headaches due to eye strain and by neuralgia of nasal or dental origin. Periodic attacks of migraine are sometimes kept up by eye strain, sometimes by nasal irritation. Comparable to migraine is the so-called periodical visceral neuralgia of intestinal, ovarian, or Fallopian origin. Vertigo is not a rare secondary neurosis, the cause of which may be found in the eyes, the ears or the intestinal tract.

In all these instances of reflex and of sensory neuroses, the etiology can be considered as definitely proven only when we have succeeded in arresting the attacks by the cure of the peripheral anamoly suspected to be their cause. This, of course, is not

[1] There are six cases on record in which the symptoms of Graves Disease (Morbus Basedowii) were removed by the treatment of nasal anomalies—quoted by Muschold (Deutsche Medicinische Wochenshrift No. 5, 1892), who reports an instance.

always possible, while we can benefit the patient, perhaps, by other modes of treatment, which, however useful, are not demonstrative of the peripheral origin of these secondary affections. Occasionally, however, we can get a confirmation of the view which attributes them to peripheral irritation, if we observe an unmistakable aggravation of the neurosis whenever the peripheral disease is aggravated.

A subject of great theoretical and practical interest is the study of the conditions which permit peripheral diseases to bring about the secondary neuroses. We will find in the first place, that in nearly all instances the peripheral anomaly or disease, has been of long standing, at least weeks, if not years, thus engendering an accumulating influence upon the nervous system. Perhaps the most notable exception to this rule are infantile convulsions of bowel origin. The irritation produced by the peripheral disease is not however, necessarily painful. In the case of nasal disease, the direct annoyance may indeed be so slight that it is overlooked by an unobserving patient, although even in that case, we can elicit the history of local symptoms by proper questions.

The occurrence of reflex neuroses depends furthermore on an abnormal condition of the central nervous system. For if, in a given case, the irritation of certain nerves can lead either to reflexes or to irradiating sensations, which do not follow the same irritation in normal subjects, we must conclude that the nerve centres are not in their proper physiological condition. This abnormal state of the nervous system in which stimulation of sensory nerves can extend into paths not normally open to it has been termed the neuropathic condition or taint. The name by itself explains nothing, but the condition cannot be ignored. The neuropathic tendency may result occasionally from the long continuance of the peripheral irritation, but as a rule, it depends largely on other factors. The frequent occurrence of reflex neuroses in different members of one family can be interpreted as an evidence of the possible hereditary transmission of the neuropathic tendency. But while acknowledging this fact, we must not overlook that we do not know the anatomical or nutritive peculiarities upon which it depends. To state that a condition of the nervous system is hereditary expresses the result of observation, but does not explain it.

The neuropathic condition may also be the result of preceding diseases. Anæmia and chlorosis are frequent conditions in the course of which peripheral irritations lead to consecutive neuroses. Similarly do we find the tendency to reflex neuroses increased by the influence of typhoid fever and measles and other infections upon the nervous system. In fact any influences like steady overwork, continued mental worry, exhausting sexual excesses, can produce in the nervous system changes which permit the occurrence of reflex neuroses. These considerations explain why a cure can sometimes be effected in reflex or sensory neuroses of peripheral origin, without removal of the peripheral cause. Any measures which can restore the normal state of the brain, or which can bring the resistance to the extension of nerve stimulation up to par, may render the peripheral cause inoperative. This possibility of various modes of successful cure can be illustrated, for instance, by the treatment of headaches from eye strain. The use of proper glasses gives in such cases absolute relief as long as the glasses are worn, but this is a correction of the evil, and not an ideal cure. In some instances, however, we can improve the condition of the nervous system by rest, out door life, iron if needed, and similar measures, to such an extent, that even without glasses the headaches or other neuroses present cease, while the local fatigue of the eye persists, though without secondary disturbances. The symptom proper of over-exertion of the ciliary muscle, the feeling of fatigue in the eyes is, however, not influenced by such treatment, but only by suitable glasses.

The tendency of a peripheral irritation to induce secondary neuroses is furthermore increased by the simultaneous influence upon the nervous system of irritation in different organs. This is illustrated by the liability to reflex neuroses during dentition and pregnancy. If infantile convulsions occur at the time of teething their real cause is usually some irritation, perhaps more often in the bowels than in any other part of the body. But the irritation proceeding from the gums is an important determining condition. Similarly, the different reflex and sensory neuroses which may complicate pregnancy can often be traced to special peripheral causes which would fail to produce this result were it not for the concomitant pelvic irritation. The influence of simultaneous peripheral disturbances in different organs can be observed sometimes in the production of asthma, according to my personal experiences in several instances of asthma, the nasal origin of which was shown both by the nasal symptoms preceding the attack and by the ultimate cure by means of nasal treatment. The asthmatic spells however, occurred in these patients, mainly during the time of intestinal derangement, and the history up to the time of final cure showed that the liability to asthma was always diminished by attention to the intestinal condition.

c. Secondary diseases of *chemical origin* comprise the various instances of poisoning by toxic agents produced within the body. By some authors, these occurrences are termed auto-genetic poisoning. The best known instance of such affections is post-diphtheritic paralysis. Diphtheria is very often followed by paralysis of the ciliary muscle, less often by paralysis of the soft palate and sometimes by pareses of other motor and sensory nerves. Autopsies have shown the cause to be a neuritis, but we do not know yet whether there is an organic lesion in all cases. Similar paralyses follow the experimental injections of diphtheria tox-albumin in animals. We must, therefore, attribute the post-diphtheretic paralysis to the retention of poisons produced by the diphtheria bacilli in the body. Why this paralysis only occurs in some of the instances of diphtheria and not in all, and what the conditions are which limit the toxic influence to certain nerves is as yet unknown. The occurrence of multiple neuritis, during or subsequent to various other infectious diseases, or in patients with cancer, is probably also referable to auto-genetic poisons. It is to-day an open question whether locomotor ataxia has not a similar origin. The disease is preceded by syphilis in so large a proportion of instances that a relation to the syphilitic virus is unmistakable. Yet ataxia has neither the characteristic lesions of syphilis nor is it ordinarily influenced by anti-syphilitic treatment. It is therefore not improbable that the sclerosis of the nervous system is the result of some toxic sub-

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stance produced in the body under the influence of the syphilis parasite. But since ataxia does occur sometimes, though rarely, in non-syphilitic persons it seems that its hypothetic poison may also have a different origin.

Another instance of a secondary affection produced, in a chemical way, is the coma which sometimes causes the death of diabetic patients. It was formerly attributed to the occurrence of acetone in the blood but is probably due to other poisoning substances, which have not yet been determined with certainty. Auto-genetic poisoning is furthermore illustr ted by uræmia and puerperal eclampsia but neither the chemical factors nor all the conditions, which lead to the poisoning, are as yet fully known.

It is not improbable that various forms of kidney disease, especially the lesions following some infections, are the result of autogenetic poisons. At any rate, diligent research has failed to detect parasites in diseased kidneys in so many instances,[2] that a chemical origin of such lesions seems very plausible.

d. The statement that certain secondary affections may be produced *through nutritive influences*, expresses some facts which we cannot at present explain. Of course, nutritive processes are largely based on chemical occurrences, but our means of analyzing these occurrences are as yet insufficient. Hence the term "nutritive influence" is a vague, collective heading for activities that are not fully understood. An instance of a secondary disease brought about in a nutritive way is the so-called cachexia strumipriva. Total extirpation of the thyroid gland is frequently followed by mental degeneration, nervous symptoms and nutritive disturbance, known as cachexia strumipriva. Surgical experience, as well as experimentation upon animals, has shown that the loss of the thyroid gland is the cause of these morbid phenomena, but in what way they are produced is a matter of conjecture. The resemblance between cachexia strumipriva on the one hand, and the diseases known as myxœdema and cretinism on the other hand, strongly suggests that these affections also are secondary consequences of interference with the function of the thyroid gland, which view is confirmed by the invariable diseased condition of this organ in the last mentioned affections.

Secondary affections of nutritive origin are further illustrated by some forms of diabetes. This disease does not represent an etiological unity. Transient forms of it are probably due to vascular disturbances in the liver under the influence of the nervous system. But even amongst the permanent and incurable cases of diabetes, we find two distinct varieties, viz.: those with disease of the pancreas, and those with healthy pancreatic gland. The researches of Mering and Minkowsky (confirmed by Lepine), have taught that complete extirpation of the pancreas in animals causes permanent diabetes. On the basis of these data we must, therefore, regard certain instances of diabetes as secondary consequences of pancreatic degeneration.

Another illustration of secondary diseases produced through nutritive disturbances is furnished by certain retinal lesions, usually called retinitis. The retinal lesions observed frequently in the course of chronic nephritis have been found by Duke Carl of Bavaria to be the consequence of inflammation and hyaline degeneration of the intra-ocular blood-vessels. That morbid changes occur in blood-vessels in connection with some renal diseases, had been established by various observers. The similarity in the pathology of the so-called retinitis in leucocythæmia and in diabetes with that of albuminuric retinitis, suggests that all these forms represent secondary diseases, produced through nutritive changes in the blood-vessels.

Secondary diseases produced through nutritive disturbances are met with also in many forms of nervous disease. An atrophy of parts dependent on nerve lesions, and invariably accompanying the same, should of course not be called a secondary disease, but is really a symptom of the original affection; as, for instance, muscular atrophy dependent on disease of the anterior gray horns of the spinal cord. But secondary changes which occur capriciously, so to speak, in the course of nervous diseases; that is to say, which depend on accidental concomitant conditions, belong to this etiological group. The joint affections in locomotor ataxia, and the atrophic degeneration of hair, skin or nails as the consequence of lesions of nerves, may be quoted as illustrations.

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III. *Anomalies.*—In order to complete our etiological survey we must consider, not alone the active diseases of primary and secondary origin, but also include those ailments which consist in mere structural deviations. The disturbances which from an etiological point of view can be called anomalies, do not represent a reaction of the system to a still active injurious influence, but constitute the ultimate result of former abnormal influences. Anomalies may thus have been produced by former diseases of tissue-productive or destructive character, or they may have resulted from influences which were not of sufficient intensity to throw out of gear the physiological mechanism and which, hence, did not cause disease, but led to structural deformity.

The origin of anomalies in consequence of traumatism is illustrated by deformities due to the healing of fractured bones or cartilages with faulty position of the fragments. Destructive diseases cause cicatrices, the subsequent shrinkage of which, as in the form of a urethral stricture, furnishes many familiar instances of important anomalies. The deformity of the cardiac valves in consequence of endocarditis is another example of a lesion the result of a former disease followed by interstitial shrinkage. In other instances anomalies may constitute, not a deficiency, but an excess of tissue. Personal studies have convinced me that the hypertrophy of the tonsils, especially observable in the pharyngeal tonsil, does not represent a disease but an anomaly. The enlargement of the glandular tissue is not a continuous process, but occurs to a greater or less extent in the course of every acute inflammation of the nasal cavity, probably as the result of absorption of toxic substances through the lymph vessels. As soon as the attack of coryza has passed off, the amount of adenoid tissue at the roof of the pharynx and in the tonsils remains unchanged until the next inflammatory attack or until slow involution occurs in consequence of advancing age.

From an etiological point of view some forms of benign tumors, such as fibromata, myomata and lipomata, may also be regarded, not as diseases, but as anomalies, the results of past influences. The tissue constituting such tumors is in no sense diseased, and

[2] Fuerbringer in Diphtheria. Virchow's Archiv. Bd. 91, p. 385.

abnormal only in topography. The tumor, therefore, is a mere structural deviation, of pathological importance only by reason of its mechanical presence. Even while the benign tumors are in the process of growth, the abnormal tissue proliferation is limited to the border of the new growth, and does not extend into the tumor itself. We do not, however, as yet know the causes leading to this tissue proliferation. While we can thus classify as mere anomalies those tumors which grow only by peripheral accretion but do not extend into the surrounding tissue, we cannot maintain such a view as regards any spreading or malignant growth, but must consider these as active diseases.

As before stated, anomalies of structure may be occasioned also by influences which do not throw out of gear the physiological mechanism, and hence are insufficient to produce real disease. Examples of this kind are the deformities of bones and joints from mechanical causes, for instance lateral spinal curvature. Finally, there remains a large array of structural anomalies due to interferences with the normal growth. As to the etiology of this field we are as yet in complete ignorance. Such anomalies due to retarded, or in some cases excessive growth, occur mainly during intra-uterine life. Other instances, however, are also produced during the earlier periods of life, while the processes of growth are still active. As examples may be quoted the irregular shape of the cornea causing astigmatism, the arrested growth of the eyeball in hypermetropia, or its excessive elongation in the minor degrees of myopia.

REPORT OF A FEW CASES OF FOREIGN BODIES IN THE STOMACH WHICH HAVE COME UNDER MY OBSERVATION IN THE PAST TWENTY YEARS.

BY W. T. KENDALL, M.D.,
OF MERIDIAN, MISS.

The first case was one in the larynx; a young man while running through a field struck a dry stalk of cockle burr and one burr flew in his mouth and in deep inspiration lodged in the lower larynx. I was called to see him at once; arriving at the patient's house late at night and not having a pair of laryngeal angle forceps in the country at that time, and being unable to do anything with a pair of ordinary forceps, I made an instrument out of a piece of white oak split, but found it impossible to dislocate the burr with the means at hand. The patient was breathing very well, so I concluded to wait until morning. After a good night's rest the patient experienced very little inconvenience from the burr. I made one more effort to dislocate it with my improvised instrument and not accomplishing anything I concluded to resort to other means, so gave him slippery elm mucilage in moderate quantities during the day, and as I expected, or hoped, the meshes of the burr filled so completely in a few days that it was dislodged and the patient in a fit of coughing spit it out; he experienced no further trouble.

Case 2.—Little Bessie C., 10 months old, while crawling on the floor, found a large round head tack and swallowed it. I saw the little patient a short while after the accident had happened, but could not find it as it had passed from view, having examined for it with a laryngoscope. I concluded to try the mucilage treatment, hence ordered a teaspoonful of mucilage of acacia given the child every two or three hours. In about thirty-six hours the tack passed out completely covered with the mucilage. There was no further trouble.

Case 3.—Lottie Mason, age two years, while playing with a breast pin (such as children frequently wear, about two inches long, marked "baby") put it in her mouth and accidentally swallowed it. Her father lived some distance in the country. He came for me. I ordered the mucilage treatment and in thirty-six or forty hours the pin made its appearance. The child was all right in a few hours and had no further trouble.

Case 4.—At the East Mississippi Insane Asylum, about five years since, a three months old child of Mr. Burbe (the baker of the institution) was lying on the floor on its back; its little brother came in the room with a three inch screw, put it in the baby's mouth and pushed it down its throat. The mother saw the act but was too late to prevent it. She at once sent for Dr. Johnson, assistant surgeon of the Institution, who at once telephoned for me to come and bring forceps to extricate it, but on my arrival it could not be found. Dr. Johnson suggested that we give the patient a large dose of castor oil, to which I kindly objected upon its producing too great peristaltic movement and thus be in danger of perforation of the bowels in its passage. I suggested the mucilage acacia treatment which produced a most happy result, the screw having passed out in about thirty-six hours surrounded by its safeguard, the mucilage.

I merely write about this simple treatment of foreign bodies in the stomach in order to show how easy it is to rid the system of them by simple medical treatment instead of major surgical operations. A foreign body is a nidus around which the mucilage readily accumulates, and thus prevents any danger to the intestinal track.

SOCIETY PROCEEDINGS.

Chicago Medico-Legal Society.

March 5, 1892.

(*Concluded from page 497—Discussion on Papers of Drs. Dewey and Moyer.*)

Dr. Marshall D. Ewell: In an experience of about twenty-five years at the bar and in the study of law, I can say that I have never heard so satisfactory a presentation of this subject. It has rarely been my experience to see medical men who by education were fitted to, or at least did, express themselves upon legal subjects in a manner that seemed acceptable to my judgment. I do not wish to make any criticism of the medical profession, because among them are some of my best friends, men for whose learning and experience I have the greatest respect; but after some experience with the medical profession, I am able to state with considerable clearness that the methods of study in the two sciences of law and medicine are so radically different that the lawyer is, as a rule, unqualified to investigate a medical subject, and, on the other hand, medical men are, as a rule, decidedly unqualified to investigate a legal topic. I think this is made very apparent in the paper by the very learned gentleman which was read first. I have a very great admiration for his experience, but I cannot commend his law.

I presume that in nearly every State in this Union there is some method by which the question of insanity can be investigated prior to and independent of the equities and intents of the case. That fact seems to have been entirely overlooked by our medical brethren. It would be well, in

my judgment, for gentlemen who assume to criticise the law and administration of justice, to be thoroughly informed as to what is law, and not assume rules as non-existent which in fact do exist. There is no doubt whatever, as suggested by Dr. Moyer, that the present system of expert evidence is faulty—so is the present administration of justice generally. Medical gentlemen who propose remedies shut their eyes entirely to the fact that the Continental system, which as a rule meets their approval, is one that, with the system of administering justice under the common law, cannot under our Constitution be put in use, at any rate not without incurring greater dangers than are, in my judgment, incurred by the present system, which if it leads to any danger whatever, errs on the side of mercy to the criminal. It does not tend, as a rule, it seems to me, to convict insane men, but, on the other hand, to acquit some guilty men. Not knowing the precise position the gentlemen would take, I have been unable to meet the arguments advanced, except as they suggest themselves to me this evening, but I say it has not occurred to these gentlemen that the systems of justice administered on the Continent and in England are quite different, and that the evils which would be incurred by adopting the system recommended by Dr. Dewey would perhaps be greater than those of the present system. In my judgment, the evils resulting from the centralization of power in the hands of a few men who are appointed as they would necessarily be in this country, are greater than to trust to the intelligence of the average jury. If I am correctly informed, this system does not operate well in Continental Europe. Even those men who are supposed to embody the acme of wisdom of the medical profession have made many notorious mistakes. That they make as many mistakes as are made by the average jury I should be unwilling to admit, but the system is by no means perfect.

Again, under our Constitutional system, every person accused of crime has a right to be confronted by his witnesses in open court, and has a right to have their truth sifted by cross-examination. In that view of the case it would be impossible, in a criminal case, to have reference to a master for the purpose of obtaining the facts; indeed, reference to a master would be simply postponing the difficulty, and would by no means remove it. The trouble inheres not only in the tribunal, but in the subject-matter. Every earthly tribunal, called as it is to administer justice according to the probability of the case, must make mistakes. The laws of evidence in use in human tribunals do not seek to establish mathematical truth. Every case is decided upon the greater or less probability, so that there is a chance for error not only in the tribunal, but in the testimony itself. Now as to the testimony: The facts concerning which experts testify are notoriously uncertain and doubtful, there can be no doubt of that, any candid observer will admit the truth of the statement. The facts being uncertain, the witnesses who depose to those facts are also uncertain, but so far as my observation goes, they are no more uncertain than the witnesses who depose to ordinary facts of observation. Let half a dozen witnesses depose to a fact, separate them and call them into a court of justice, and compel them under oath to narrate that fact, and see how much they will disagree, and yet within the limits of honesty. The gentlemen who desire greater certainty in the administration of criminal law by the aid of expert testimony, certainly desire that which ought to be accomplished if it is possible, but they should remember that the truths investigated in the courts of justice are not mathematical nor scientific truths, the certainty of which is beyond question. In many instances, perhaps in the majority, there may be room for an honest difference of opinion, and opinions may be about evenly balanced; it is not infrequently the case that the opinion of competent observers may be radically different, and both sets of observers may be equally honest.

With respect to cross-examinations, I have never yet seen a physician on the witness stand under cross-examination by an attorney who had thoroughly studied the subject, where the witness had not sustained himself as well as he ought, that he was not in favor of a commission and a different system of administering justice; I have observed that repeatedly. I remember some years ago, a very distinguished alienist came into a store in which I happened to be purchasing a book. He was in the greatest state of trepidation and nervousness, it seemed to me he almost had paralysis agitans, and upon inquiry I found that he had been on the witness stand for two or three hours under an able cross-examiner. The physician who studies his case, who is conscientious and commits himself to no doubtful theory, need have no fear of cross-examination. In my judgment, cross-examination in open court in the presence of the jury is the greatest test of proof known to the law, and for one, I should never be willing to give my sanction to any system which would obviate the necessity or do away with the right of cross-examination. Lawyers are frequently at fault in this matter, they are human beings as well as the doctors, but as a rule they try to prepare themselves as well as they can, although they are not always well prepared. A man who goes upon the witness stand and testifies to the truth and nothing but the truth, so far as his opinion is concerned, would very much prefer to be cross-examined by a lawyer who has studied the subject than by one who does not understand the first principles of it. Now and then, it is true, lawyers do abuse cross-examinations, but the privilege is under the control of the court, and I doubt whether witnesses are treated with very great brutality by the average lawyer, and certainly the witness who is prepared ought to be able to take care of himself before any lawyer; if not, he should not go on the stand.

One other point is the fact that the law proceeds by general rule. It is impossible for the law to lay down one rule for one case and another rule for another case, as you can in the treatment of disease, but the rights of all must be adjudicated by general rules. These general rules sometimes lead to hardship, it is inevitable that they must do so, but the security of life and property are much better effected by just general rules than by the variation of a rule to suit the equities of the case. I had not the slightest idea I was on the program until I came here this evening, and I ask your pardon for the rambling way in which I have presented this important subject. It is important for the reasons already stated, that in many cases opinion evidence is the only evidence we have, and w thout it justice could not be administered at all.

Mr. D. J. Weil: I was not aware until I saw my name on the postal card that I would be expected to take part in this discussion, and the Appellate Court in a spirit of mistaken kindness, having put me on a committee to examine students on application for admission to the bar, I am not in a condition of mentality which will enable me to present this question from the lawyer's standpoint in the manner it deserves. On the contrary, I find myself very much in the condition of the old preacher in Iowa, who, on being caught making a good many misstatements in the course of his sermon, which he detected by the smiles of his auditors, very frankly confessed that it was difficult to convey to others ideas of which he was not himself possessed, and so with only a fragmentary recollection of various instances that might be of interest to my listeners, I find myself utterly unable to mould into a homogeneous mass, those instances which in themselves and considered properly in relation to each other, ought to be of interest. I do not share the somewhat sardonic opinion expressed by a New York judge who divided unreliable witnesses into three classes: the first as liars, the second as blank liars, and the third as experts. On the contrary, I think the very fact that we call upon experts to the extent that we do, not only in medical lines but in all branches of mechanics and commercial life indicates clearly that their use grows out of our advanced and advancing civilization. The tendency nowadays as well in the learned professions as in the other walks of life is in the direction of concentration. People are becoming more skilled in their particular lines; the lawyer's profession is specialized; there are very few in the profession who can truly bear the name of being good general lawyers. This is done from purely pecuniary motives, which actuates them to put money in their purse when they can, and so with the medical profession: The specialist is the one who makes money, and the general practitioner is rapidly giving way to the specialist. Hence it is that in our every day experience we call upon specialists when some disease afflicts us. So in the complex civilization in which we find ourselves, especially in city life, we find it every day more necessary to call upon experts to aid us, and why not in the administration of justice. It seems to me too, that we overlook one very important fact, that is that experts are called every day for the witness stands in our courts, not always insanitary experts, not always experts in handwriting, but as to the value of property, etc., and their evidence cuts a very important figure in the administration of justic. But when we see a miscarriage of justice, our attention is arrested by it and we are prone to condemn the expert because justice has gone wrong in one particular case. It reminds me very much of our daily experience, we go along the streets of the city, and we see thousands upon thousands of sober people and our attention is not arrested by

them, but we see one drunken person on the street, and the fact that he is intoxicated fixes itself upon our minds, and we remember him and lose sight of all the sober people we have met; and so in the administration of justice, in thousands of cases in which experts testify no one can gainsay that justice is accomplished, but from the one case where justice miscarries we draw the conclusion that expert testimony is objectionable.

As to the criticism made on the examination by a lawyer of experts on the witness stand, there is too much truth in it. The fact is the average lawyer does not qualify himself to examine an expert, he qualifies himself only sufficiently to conceal his own ignorance; his selfishness is of that order which leads him so far as his own personality is concerned, to exhibit himself to the best advantage before the jury. The modest expert on the stand with the brilliant lawyer before him stands at a disadvantage and the jury is more likely to be swayed by the eloquence of the lawyer than the facts testified to by the expert.

As I said, I have had no time to prepare for a proper discussion of this subject, but I am deeply interested in the topic, as I am brought into contact with it day after day, but from the fact that it is easy to talk a great deal and difficult to say much, I prefer that the further discussion shall be left to others better qualified by experience and observation than I am to testify to what they have heard and known.

Judge Horton: The Doctor's paper brings to my mind several practical illustrations of expert testimony. One case I recall where an alienist was examining into the sanity of a young man who had been shunting trains off the main track to a sidetrack. He had given a long explanation, with all the technical terms, more than I could understand and I fancy more than the jury could understand. Out of the confusion, the court asked him if he knew the difference between right and wrong, and he replied that there was no such thing as right and wrong, that that theory was exploded long ago. So long as you have such alienists as that their testimony will be in disrepute in the courts. I know of no use for courts if there is no difference between right and wrong.

One remark made by Mr. Weil recalls to my mind a case in which there was expert testimony as to the value of real estate. Talk about doctors disagreeing, it was the most marvelous testimony I ever heard of. It was a piece of property condemned by the South Park Commissioners and one of our most able and wealthy old citizens swore that it was not worth a dollar, and demonstrated it by what they supposed the property would be worth in ten or twenty years, adding the taxes and special assessments of the South Park, and he figured that it was not worth a cent, while others testified that it was worth six thousand dollars per acre. I never heard doctors disagree more than that.

Men are often called upon to give expert testimony who are not in fact called as experts but because they have been forced to know the circumstances; for instance, in the case of accidents where physicians are called, or something of that kind. They are not in fact experts, and I fancy it is the demonstrated lack of wisdom and common sense often exhibited in such cases that has brought reproach upon so-called expert testimony. I recall an accident damage case where the plaintiff had been crushed by the backing of a heavy wagon against him, pressing the chest together, and he was prosecuting for damages. The physician who had been called to see him was necessarily called as an expert, for he examined the man and was the only one who knew exactly what the plaintiff's condition was. In examining that witness, after he had given his direct testimony, in which he stated that one or two of the ribs were broken loose from the backbone, I don't remember which rib, but at that time I was posted on the subject—I said, "Doctor, in making an examination how do you tell when a rib is broken?" He replied, "You put your hand where you suppose the fracture is, and bending in some other place you can feel the fracture." The rib he located was up under the shoulder blade beneath that big muscle and he felt the fracture when he pressed his finger in front. It is that kind of expert testimony which brings disrepute. I believe that the man who is hired as an expert, is hired to testify to some particular thing in nine cases out of ten; a defendant does not hire an expert to testify against him. This is the root of a great deal of difficulty with expert testimony. Take patent cases, they are pretty much all tried on expert testimony, four are allowed on each side, and it is practically a sworn argument, that is about what it amounts to. Each man is hired as an expert in a particular department of mechanics or science and the one who can make the best sworn argument is the best expert, too often, but that is not always the case.

Dr. J. G. Kiernan: It is unnecessary to say that I have been, so far as newspaper notoriety is concerned, one of the best advertised experts in Chicago. I have noticed one fact about newspaper notoriety which is an important feature in these cases: I have appeared for the prosecution in cases where a sham plea of insanity was introduced to give the jury a chance to acquit people whom public sympathy had exonerated, and the experts for the prosecution in these instances are always abused by the newspapers. I remember a case where experts appeared against a certain woman who shot a lawyer for doing something, which was probably within the limits of his profession, and had made him an acute melancholiac. She was tried for assault with attempt to kill. In that case I was approached by both sides, on behalf of the defense and on behalf of the prosecution. I told the defense there was no evidence that the woman was insane, and they admitted it, and then went out and procured several witnesses with whom to make a sham plea of insanity. But the jury was wiser than the defense, they acquitted the woman but refused to say that she was insane. That case was tried largely and almost completely by the newspapers, and some fellow, writing at the reduced rates of the bureau in the newspaper profession, obtained an extra five dollars by abusing the experts who were testifying to medical facts. These things have played an important part not only in so-called defense in expert testimony, but also in legal decisions. It is a fact that with the infamous right and wrong test, mob law forces a decision. In New York that same right and wrong test was foisted on the criminal code by David Dudley Field; he perhaps appreciates the value of it just now. If we go through the criminal decisions of the courts in insanity cases we invariably find that the judge, having the most prejudice against expert test-evidence, is almost invariably pandering to mob law. Judge Noah Davis did that in a charge he made to the jury in the decision of a case in Washington. He is the gentleman who was referred to as making the assertion about liars, etc.

In regard to the workings of the European system; the case of ————, who attempted to kill the King of Italy, was tried by a commission and they emphatically cleared him. In the case of ————, who was released from the asylum as sane, after word was sent all over the country that he was a sane man confined in a lunatic asylum, he was sent travelling over the country accompanied by a physician and two attendants. But the book which he published, would be sufficient to convince any expert that the man was suffering from chronic insanity. The Baron was released by the same procedure in France, and his property went to the whirlwinds in a very short time, and it was necessary to put him under restraint again. These are the workings of the Continental system which is so much boasted of.

I agree heartily and thoroughly with Dr. Moyer and Dr. Ewell.

One point was suggested by Dr. Horton's remark in regard to questions of fact. I am of the opinion that immediate improvement could be made by confining the expert totally to opinion evidence, and compelling some one else to furnish the fact evidence. I think that would be an improvement on the present system; the expert could then state his opinion on the facts fully and truthfully. I had an experience to-day of that kind; I was asked to examine a case and formed an opinion totally and diametrically opposite to that of the man who was trying the case; he will not now have an expert, but will try it on general principles. I think this case could be much more clearly presented to the jury by a person who had never seen the patient before.

Judge Horton's rib story reminds me that I was once indicted for murder, but the indictment was never turned in, on the testimony of an expert gentleman, who testified to the fracture of the twelfth rib (I will say for the information of those not posted on this subject, that this rib is 3½ inches long). He stated that this rib was fractured 7½ inches from the tip and 3 inches from the backbone, and that that mysterious fracture caused death.

Mr. Henry L. Tolman: Mr. President, I agree with Dr. Moyer, in his talk to medical experts, almost entirely. Dr. Ewell is probably in accordance with the general subject. I think there is nothing to be said as to the necessity for experts, the development of science at the present day makes it impossible to cover more than a single branch, and the limitation must be constantly met. I cannot agree, however, with the gentlemen that the present system is so right that no improvement can be made in the selection of ex-

perts. As we know, in ancient times under the Roman law the persons best acquainted with the facts were selected to pass upon the same. This is true to a certain extent in France, and it is carried still further in the German law. While Dr. Kiernan has shown us where errors have been made and abuses committed in some cases, it is not fair to bring out these few cases and apply them to all, or make any general deduction from them. The tendency has been, very often, to go as far as can be under the present system of law, in that direction. A case has been recently reported in one of the photographic journals of a celebrated chemist who was employed by permission of the parties to make an estimate of the damages a company had suffered, chemical losses in a case of nuisance against the photographic company. This principle has been applied in many instances in this city, but the trouble is that under our present system there is no way of enforcing it, and when one party selects a competent person another will find objections. But to my personal knowledge there have been occasional instances where judges have selected a person, both in medical and other cases, to make examinations, and have acted upon their report. I know of one case where a verdict was set aside by the judge on the expert's opinion, on a motion for new trial in a jury case, and I know of one or two chancery cases. I think under our law we can go still further, there are what we call claim issues out of chancery court where special questions cannot be decided by the jury, and it seems to me the law is broad enough to allow them to be decided by experts. The human mind, it seems to me, is sensibly or insensibly affected by having a series of facts put before it, so that the natural mental balance of a man may be upset even though he desires to preserve it. I think it would be a material advantage to further, as far as we could, either by legislative enactment or by law, the decision of these questions—not always medical—by persons appointed who have no bias whatever, so that they can go to a case and hear the testimony or have hypothetical statements put to them, and form a conclusion.

As to medical testimony, about which there seems to be more difficulty than any other class; I do not see how it can be less when we consider the extraordinary difficulties under which they labor, the intricate machine they have to investigate, the extraordinary working of internal disease to be judged of by external manifestations, especially mental disease. And it seems to me that the obliquy under which they apparently labor to some extent, and the objections made to them is because they are not allowed under the law the opportunity of a statement of all the facts. I have had occasion to listen to a great many of these expert cases, especially medical cases, where a statement is made that does not embody all the facts on which a decision can be made, and when the medical man objects, he is forced to say as far as he can, or as near as he knows. Now it is very rarely that a question involving insanity can be so stated by a non-professional man as to embrace all of the necessary factors on which a medical man can draw a conclusion.

As to general rules, they seem to me sufficient under our present laws, and if not we should have special rules for this class of testimony; it is growing in importance and it will always be with us, and instead of deprecating it and attempting, as many judges do, to get along without expert testimony, the better way is to meet it frankly and fairly and either by the legislature or the judiciary make rules fitting our laws to advancing civilization. Where it has been tried, in New York, Iowa and Minnesota where the law in regard to handwriting has been enlarged, the tendency to admit expert testimony of any kind has been increased. In New York within the last year the law has been enlarged in one respect beyond that which exists in England. We are putting ourselves in opposition to the tendency of affairs when we attempt to belittle it or try to reduce it to rules which were ample two or three hundred years ago but are inadequate to the needs of the present time.

As to the theory of insanity I rather side with Judge Horton on the question of right and wrong, although I don't believe it can always be urged as a ground on which to decide sanity or insanity. DR. ARCHIBALD CHURCH, Secr'y.

THE USE OF VASELINE IN CATHETERISM.—Dr. Hovotny, in *Budapest*, cautions against the use of vaseline for anointing catheters. He has observed that the vaseline thus introduced into the bladder changes, owing to its insolubility, into mass, which causes a urinary deposit on it. In one case the amount of detritus thus formed was 150 grains.—*Deutsche Med. Zeitung.*

Philadelphia County Medical Society.

March 23, 1892.

PRESIDENT JOHN B. ROBERTS IN THE CHAIR.

John S. Stewart, M.D., Ophthalmic Surgeon to the Philadelphia Lying-in Charity, read a paper entitled

THE USE OF GELATINE DISCS IN THE EYE.

Some excuse, perhaps, may be needed for bringing before this Society a subject which can be of practical interest to specialists of one department only; but it has occurred to me that a very brief account of one of the methods of applying medicaments to the eye, which, in my hands at least, has proven highly satisfactory, may be not altogether devoid of interest even to those engaged in other lines of work. I refer to the use of medicated gelatine discs, and in the present instance will consider only the advantages of applying homatropine and cocaine to the eye by this means. Four years ago, in an article on the subject "Homatropine," published in *The Medical News*, March 3, 1888, I called attention to the fact of having frequently observed an irritant action exerted on the deep structures of the eye by repeated applications of a watery solution of hydrobromate of homatropine. At that time it was my belief that this irritation was the principal cause why ametropia cannot be accurately estimated in very many cases where homatropine has been employed, and a considerable experience since in the use of watery solutions of the drug tends only to confirm this opinion. That irritation is produced in every instance by this method of practice, I do not pretend to say; but I am convinced that in all cases where there has been considerable and long-continued eye-strain, resulting from efforts to overcome particularly aggravating forms of refractive error, or where chorio-retinal irritation, due to other causes, exists, the homatropine as ordinarily used very often adds to the intra-ocular disturbance, and thereby interferes with attainment of the object for which it was employed, viz.: the accurate estimation of the refraction of the eye.

Another objection which I have to the use of watery solutions of this drug is that a large proportion of the effect is expended on the nasal and pharyngeal mucous tract rather than on the eye, as intended. There is no doubt in my own mind that both the irritant effects on the eye and the, at least, unpleasant ones on the nose and throat are directly due to the necessarily strong solutions employed—ranging, so far as I have been able to learn, from eight to twenty-four grains to the fluidounce—instilled in most instances a number of times within an hour.

It is claimed that medicated gelatine discs for ophthalmic use were first made in 1863 by Savory & Moore, of London; but, strangely enough, they have never been extensively used. About five months ago I began to try some of those made at the suggestion of Dr. C. A. Wood, of Chicago, by Messrs. Wyeth & Brother, of this city, and almost ever since, when I have had occasion to use homatropine alone or combined with cocaine for the purposes of refractive work, I have much preferred these discs to the watery solutions formerly used by myself.

On first thought it may seem unlikely that a single disc, containing one-fiftieth of a grain each of homatropine and cocaine, could exert sufficient influence on the accommodative power; but I have, in most instances at least, found as nearly complete paralysis of accommodation as I have ever been able to obtain with repeated instillations of two and three per cent. solutions of homatropine. The reason is not hard to discover. Absorption of the drug by the tissues of the eye takes place about as rapidly as the drug itself can be liberated by the dissolving of the gelatine; but when a drop of solution has been instilled, a large proportion necessarily escapes with the tears, or, if it does not get away so

quickly, is likely to produce in sensitive eyes the chorio-retinal irritation which so often interferes with obtaining the results for which the drug was used.

Very few of my patients who have had these discs in their eyes could detect any effect whatever in the nose or throat, and in these few instances the information was obtained only by questioning the patients on the subject.

In my practice at the present time, in all eyes suitable for the use of homatropine and requiring its use for the purposes of refraction, I am making use of discs containing one-fiftieth of a grain each of homatropine and cocaine—either the hydrobromate and muriate respectively, or the alkaloid of each. I have found it an advantage, but not always a necessity, in the case of most of my patients under twenty-five years of age, to insert a second disc of homatropine only (one-fiftieth of a grain) in each eye as soon as the first is entirely dissolved—usually in about ten minutes. A small camel's-hair brush moistened serves conveniently to convey the disc to the eye, and although it has been recommended to place the disc against the scleral conjunctiva—in the grasp of the lower lid—I much prefer raising the upper lid and inserting the disc beneath it, immediately above the outer canthus, then directing the patient to keep the lids lightly closed as in sleep, and to avoid winking until the discs are dissolved.

It has been urged against the use of the gelatine discs that the lids and eyes are thereby rendered very sticky and uncomfortable. My patients have not complained of this; but I think the annoyance was escaped, in large measure at least, by strictly following my injunction about keeping the eyes closed.

As to the reputed advantage of the combination of cocaine with homatropine, I have little to say. It is claimed, of course, that homatropine combined with cocaine dilates the pupil and paralyzes the accommodation more rapidly and effectively than homatropine alone, and that these results are more permanent. This seems usually to be the case; but cocaine is used by me in these cases because of the quieting effect which it produces on most eyes, thus tending, in some measure at least, to overcome the irritant effect of the homatropine, and at the same time to facilitate the measurement of the ametropia.

In conclusion, it should be added that on several occasions I have used the English preparation of Savory & Moore, of London; but there is no hesitation on my part in expressing a preference for the Wyeth discs.

G. E. De Schweinitz, M.D., Professor of Ophthalmology in the Philadelphia Polyclinic; lecturer on Medical Ophthalmoscopy, University of Pennsylvania; Surgeon to the Philadelphia Hospital, etc., read a paper entitled

SOME CASES OF OBSTRUCTIVE DISEASE OF THE LACHRYMAL PASSAGES AND THE ASSOCIATED INTRA-NASAL LESIONS.

The intimate relationship between diseases of the lachrymal apparatus—that is, of the drainage system of the eye—and various types of inflammatory changes in the nasal mucous membrane is an old story. Indeed, the close association of ocular and naso-pharyngeal disease is not limited to these conditions. The great majority of phlyctenular ophthalmias depend upon some type of rhinitis, and are often the direct outcome of adenoid growths in the pharynx. Many obscure symptoms which we are wont to describe under the general term asthenopia, have been shown to depend upon intra-nasal disease, and a variety of orbital, ocular, and post-ocular pains are frequently "referred pains;" that is, their origin is from some lesion within the nasal cavity, the frontal sinus, ethmoid cells, or antrum of Highmore. In fact, as Harrison Allen has remarked, a good deal of the success of treatment depends upon a proper attention "to the commonality of the various parts of the cephalic mucous membrane."

The following cases are reported, not because they illustrate new points, but because they emphasize some old ones, and still more because they emphasize that the cure of obstructive lachrymal disease is materially facilitated not merely by the ordinary measures adopted for rendering the passages patent, in association with what may be called routine intra-nasal treatment (for I take it no one attempts to treat lachrymal disease without due attention to the nasal mucous membrane), but that more radical measures are frequently of value when applied to the nasal chambers and the vault of the pharynx, which in the vast majority of cases are the regions primarily affected.

Case 1. Purulent dacryocystitis; traces of old rhinitis and abnormal shape of the lower turbinated bone.—D. D., a boy age seven years, reported for treatment November 3, 1890. Three years ago pus began to exude from the right punctum lachrymale, and in spite of treatment this condition has continued ever since. The boy was healthy in other respects; he had never suffered from measles nor scarlet fever; was free from the evidences of inherited syphilis, and had sustained no injury. His voice was slightly nasal in tone.

The lower canaliculus was slit, and a firm stricture was found at the beginning of the nasal duct. The probe was not forced; neither was the stricture incised.

The patient was referred to Dr. Alexander MacCoy for nasal examination, who reported as follows: "The right nostril shows an abnormal shape of the lower turbinated bone, also some evidence of a severe rhinitis during the past. I believe that the position and form of the lower turbinated body have had much to do with the disease of the duct on account of the obstruction to its entrance at its lower portion into the nasal chamber. The boy also has a pharyngeal tonsil, which obstructs the posterior nares somewhat." Dr. MacCoy undertook the treatment of the nasal condition, and after a few days the stricture was incised, the probe passed, and the usual treatment instituted. After the intra-nasal obstruction was removed the epiphora ceased, and has not reappeared.

I have referred to this case in a paper on the use of pyoktanin in dacryocystitis (*University Medical Magazine*, vol. iii, p 181) and may repeat that my colleague, Dr. Gould, as well as myself has had favorable effects from this drug in the treatment of unhealthy lachrymal secretions.

The case is now utilized, however, to illustrate what seems to me a very important point to which Dr. MacCoy calls attention in his report, namely, that although the stricture of the duct, which in this case existed high up, was penetrated and although the fluids and the probe passed readily, the epiphora continued because of the malposition of the turbinated bone. Indeed, this obstruction sometimes exists only in the form of a small flap of mucous membrane, which closes the entrance of the duct into the inferior meatus very much as a valve would do. This effectually prevents the drainage of the eye, and unless it is removed good results will not follow. In this particular instance it was very easy to see the obstruction by first passing a probe and then exposing the entrance of the duct into the meatus by means of a nasal speculum—a slight precaution which will often lead to the discovery of the cause of a persistent overflow of tears in spite of apparent permeability of the passages.

Case 2. Catarrhal dacryocystitis: bands of adhesion from the inferior turbinated body to the septum.—Ella H., aged twenty-eight years, reported for treatment at the Philadelphia Polyclinic, October 24, 1891, on account of an inflammation of the right eye, which had existed for several days. There was a small abscess at the inner margin of the lower lid, with a fistulous communication into the lachrymal sac. A free muco-purulent secretion distended the sac in the form of an ordinary mucocele. The canaliculus had been slit at some previous time, but a probe did not pass readily.

She was referred to the throat department, and examined by Drs. Arthur Watson and Walter Freeman, who reported as follows: "Atrophy of both inferior turbinates; unable to obtain a posterior view; former ulceration of the posterior wall of the pharynx; bands of adhesion from the inferior tur-

binates to the septum; also one from the middle turbinate to the septum on the right side."

Even in the absence of definite history the pharyngeal condition seemed to indicate syphilis. The patient was ordered an astringent lotion, given potassium iodide and bichloride of mercury, and referred to the throat department for treatment. In January of this year an operation was made upon the lower turbinated bone, and the condition has improved without the passage of probes, the secretion and the epiphora having materially lessened.[1]

This case, it seems, illustrates the ordinary intra-nasal lesions which were evidently at the bottom of the lachrymal trouble, and is further interesting because these lesions gave confirmatory evidence of the syphilitic condition, so much so that relief was facilitated by the proper constitutional remedies.

Case 3. Lachrymal abscess; spur on the septum opposite the middle turbinated bone; chronic pharyngitis.—Sarah S., aged forty-five years, reported for treatment at the Philadelphia Polyclinic, November 24, 1891. In April, 1891, epiphora began in the left eye, for which she seems to have undergone no treatment. It continued until about one week ago, when suppuration of the lachrymal sac took place. When she presented herself there was a very marked lachrymal abscess. The pus was evacuated by an external incision, the sac freely irrigated with an antiseptic fluid, and the patient referred to Drs. Watson and Freeman for an examination.

They reported as follows: "On the left side there is a spur on the septum opposite the middle turbinated bone; also hypertrophy of the tissues. The turbinates are small. There is chronic pharyngitis, a thick phlegm covering the tissues."

Unfortunately this patient has failed to report with any regularity, and the ultimate result cannot be given. This example illustrates the course of so many of these cases, namely, a chronic pharyngitis and hypertrophy and inflammation of the intra-nasal mucous membrane; involvement of the lachrymo-nasal duct; epiphora, owing to an obstruction primarily from swelling of the mucous membrane, and later from the formation of a positive stricture. Under the influence of the pressure and of the stricture, the fluids of the conjunctival sac are not drained, but distending the lachrymal sac, become infective, an abscess forms, and the condition which has been described results.

Case 4. Epiphora; atrophic catarrh.—Jane C., aged 60 years, reported for treatment at the Philadelphia Polyclinic, November 14, 1891, complaining of pain in her eyes, constant epiphora, and inability to read on this account. There was considerable hypermetropia and some astigmatism, and, as epiphora is frequently caused by the strain of uncorrected ametropia, proper glasses were ordered, but the overflow of tears continued. Both canaliculi were then slit. There was narrowing of the ducts, but no stricture, and probe and fluids passed readily. The epiphora improved, but did not disappear.

She was referred to the throat department, and the following report was received: "There is an atrophic condition on both sides, and a spur on the septum on the right side, near the opening of the lachrymal duct, but it does not interfere. The closure is probably due to contraction from atrophic changes."

This is a good example of a very common condition, most frequent in elderly people, where there is neither disease of the sac, stricture of the duct, nor pressure from a spur, or hypertrophy of the turbinated bodies, but where the obstruction depends upon contraction from atrophic changes.

Case 5. Phlegmonous dacryocystitis; deflection of the septum; spur on the left side pressing on the inferior turbinated bone.—Matthew L., aged 27 years, presented himself for treatment on account of an extensive lachrymal abscess, with a small opening and widespread infiltration of the tissues, producing a large swelling involving the lower lid and cheek. The abscess was incised, the pus cavity freely washed out, and an antiseptic dressing applied. In a day or two the swelling had subsided, and nothing remained but a slight brawniness of the tissues and a fistulous opening at the point of incision. The canaliculus was slit, but all efforts to introduce the probe proved futile. The patient had been much exposed to weather; had a history of an old injury, but denied syphilis. The obstruction to the tear passages had existed since the early fall.

He was referred to the throat department, and the following report was received: "The septum is irregularly deviated in front; there is a spur on the left side pressing on the inferior turbinated body, which also contains an ulcer in its anterior portion."

He was warned that "catching cold," which would increase the nasal obstruction, would certainly bring about a relapse of the abscess. He went to work, however, and returned in a few days, with all of the lesions above described in a very much more aggravated state. The same treatment was instituted, and he was again referred to the throat department, and on the 23d of February the hypertrophy on the left side was removed. On the same day a probe was passed, and since this time its passage has been repeated. Epiphora still continues, but is decreasing day by day.

This example illustrates the mechanism of relapse in many of the tear-passage cases, in this instance producing a very serious phlegmonous inflammation. Under treatment and rest, sufficient drainage takes place to produce amelioration of the symptoms; then swelling from congestion, owing to exposure, is added to the organic obstruction already present, producing complete closure with an exacerbation such as has been detailed.

Case 6. Stricture of the nasal duct; moderate hypertrophy of the inferior turbinated on the left side, and a spur on the right side.—Bridget R., aged 50 years, applied for treatment to the throat department of the Philadelphia Polyclinic, and the following lesions were found: A moderate amount of hypertrophy of the left inferior turbinated near the nasal duct, and a spur on the septum of the right side, close to but not obstructing the opening of the duct. With these lesions there were epiphora, most marked in O. D., and slight lachrymal conjunctivitis. She had not been able for a number of months to use her eyes with any comfort. She was referred by Drs. Watson and Freeman to the eye department. The canaliculi were slit, and a stricture was found at the mouth of each sac. A No. 2 Bowman's probe was passed without difficulty.

It is evident that although there were lesions in the nasal passages, they were not obstructing the duct, but under the influence of the chronic nasal inflammation a stricture had formed in the lachrymal canal.

Case 7. Epiphora from swelling of the mucous membrane of the lachrymo-nasal duct; atrophic rhinitis.—A. K., an unmarried woman, aged 26 years, was referred to me by Dr. Ralph W. Seiss, on account of epiphora of the right eye, which had persisted for some time in spite of the nasal treatment. There was no swelling of the lachrymal sac, no catarrhal or purulent secretion, but simply an overflow of tears. The general health was good, the eyes not far from emmetropic, and there was neither asthenopia nor headache.

Dr. Seiss has kindly furnished the following report of the nasal lesions: "Atrophic rhinitis presenting the ordinary appearances of tissue destruction, combined with some odor and much secondary laryngo-bronchitis."

The canaliculus was slit, and a No. 3 Bowman's probe was passed without meeting a stricture, but with a resistance to its passage which is characteristic of obstruction from swelling of the mucous membrane. After the passage of this probe, the duct was irrigated on several successive days with a solution of boracic acid and common salt, without, however, passing the canula into the duct. The fluid trickled readily through the nose. The epiphora stopped after a few treatments, and has never returned, although many months have gone by since she originally reported.

This patient represents a common class of cases of epiphora associated with chronic inflammation of the nasopharynx. A somewhat similar inflammation occurs in the nasal duct, but does not produce a true stricture; the occlusion is from swelling, not from cicatricial changes. In many cases it is sufficient to do what was performed in this case; in others even milder measures suffice. Above all things, this is an example of a class of cases the successful treatment of which I have learned especially from Dr. Risley, by obeying the principle which he was wont to instil, not to be too ready to pass probes and canulas, lest their introduction

[1] Recently there has been a relapse in this case. Attention to treatment has not been regular.

scrape away some of the mucous membrane, and really do more harm than good. It is unnecessary to do more than medicate the swollen mucous membrane with any solution that is suitable; I like boracic acid and common salt very much.

Many more cases might be quoted, but these seven representatives of various classes are sufficient to illustrate the points which I desire to make:

1. A large class of cases exists, characterized chiefly by epiphora without catarrhal or purulent secretion, in which the obstruction in the lachrymo-nasal duct depends upon swelling of its mucous membrane, and not upon true stricture. The primary origin of these cases, in the great majority of instances, is a chronic or subacute nasal catarrh. The evident indication is the treatment of the latter condition and the medication of the swollen mucous membrane of the lachrymo-nasal duct, so that it may regain as nearly as possible its natural condition, which it will do without much instrumental interference—an interference that may of itself, if unskilfully performed, be the cause of a cicatrizing band that never originally existed. Case 7 of the series illustrates this class.

2. The life history, if I may so express myself, of many cases of obstructive disease of the lachrymo-nasal duct and the formation of a lachrymal abscess, is illustrated by cases 3 and 6. First, a chronic pharyngitis occurs; later, hypertrophy and inflammation of the intra-nasal mucous membrane, followed by swelling of the lining tissue of the lachrymal duct. Gradually cicatricial changes arise, and a true stricture is formed. The drainage of the conjunctival culde-sac ceases; the micrococci natural to the part, and those which readily find access to this region, permeate the contents of the lachrymal sac because this can no longer be emptied; the pathogenic microörganisms exercise their true function, and suppuration occurs.

3. A number of cases develop, chiefly in old people, in which there is epiphora, again without the presence of pus or muco-pus, depending upon obstruction in the lachrymal duct from atrophic changes, the whole being part of a similar atrophic process in the intra-nasal passages, and generally described under the term atrophic catarrh. The obstruction in these instances is not from swelling, not from stricture, but from contraction. Case 4 of the series is an example.

4. A very common cause of an exacerbation of lachrymal disease is due to the pressure of a hypertrophic turbinated body, or similar intra-nasal obstruction, which under treatment has gradually subsided, but which, owing to exposure, swells up again, and exercises its obstructing influence. At once there is occlusion of the lachrymal passages and recrudescence of the symptoms. The very serious nature of such cases is illustrated in case 5, of the series.

5. In every case of local disease the physician should be mindful of constitutional causes; the value of confirmatory evidence by pharyngeal and intra-nasal examination is illustrated in Case 2, an example of constitutional syphilis. Local treatment may be very necessary; local treatment without general medication is ineffectual.

6. Finally, I come to the class of cases in which there exist an obstruction at the intra-nasal end of the duct (it may be trivial), permeable by the fluids used in a syringe, but an impassable barrier to the outflow of tears. Even the slightest obstructions, under these circumstances, may defeat the most classical treatment of lachrymal disease. The ready detection of such a lesion is illustrated in Case 1, of the series.

It has not been my intention this evening to refer to what are the best means of treating lachrymal disease, except in so far as these are implied by the descriptions of the lesions which existed in the examples I have reported. Whether we believe that small or large probes should be passed; whether we class ourselves with those who believe that the probes should not be used at all; whether we are the advocates of this or that antiseptic and astringent fluid; whether we think that strictures should be incised or should not be incised, or whether we believe in the permanent wearing of styles or canulas, it is evident that the rational treatment of certain types of obstructive lachrymo-nasal disease must also include not alone the ordinary intra-nasal treatment with sprays and powders, but a systematic and thorough examination of the naso-pharynx, and, if necessary, the best operative interference known to intra-nasal surgery.

Discussion.

Dr. Edward Jackson: I have very little to add to this paper. We are not in a position to generalize widely on this subject, or determine how many cases, or what proportion of cases, belong to that group in which the obstruction comes originally from the nasal chambers. Certainly I have not studied enough of these cases to go farther than to simply consider individual instances and study the lessons that they seem to teach. A case that comes now to mind is one that was treated some years ago at the Polyclinic for lachrymal obstruction. He recovered, or at least got into such a good condition that he ceased to attend. Within a few months he returned to the clinic with a renewal of his epiphora, and on passing a probe, I found no obstruction until the lower end of the duct was reached. There the obstruction was very noticeable, although no great difficulty was experienced in passing the probe. He was referred to the nose and throat department, and there was found a cicatrix involving the lower end of the duct. Whether this cicatrix was connected with the former treatment, or whether it resulted from the original nasal lesion, I am not prepared to say. Its removal certainly removed the obstruction to the flow of tears.

I recall two cases in which the thickening of the mucous membrane at the opening of the duct into the nose was the sole cause of the epiphora. Probably, in the great majority of cases of lachrymal obstruction, the original obstruction has been seated at one end of the canal. I do not think that it is always, and perhaps not in the majority of cases, that the trouble begins at the lower end of the canal coming from the nasal chambers. Frequently it commences with the puncta. Some of the obstinate cases that have come to me, with a history of slitting up of the canaliculi, and long-continued treatment with probes without permanent benefit, have shown a grave error in the position of the incision into the canaliculus. Instead of on the conjunctival surface, the cut has been made on the upper edge of the lid, so that the tears could not get into the passage until they ran over the edge of the lid. These cases are liable to a return of the acute trouble, for if the normal flow of the fluid through the lachrymal sac and duct is not sustained, micrococci which enter find the conditions most favorable for free development and the setting up of pathological processes.

Dr. Samuel D. Risley: The facts which Dr. de Schweinitz has set forth in this admirably reported group of cases are of great practical importance, both to the ophthalmologist and those who treat the diseases of the naso-pharynx. The conditions so aptly described suggest many points of great importance. It recalls some of my early experiences in the treatment of lachrymal disease. I remember the case of a Mr. C., whom I had treated for a long time in 1879 for lachrymal retention unsuccessfully. There was no stricture of the duct other than that due to a more or less uniform thickening of the mucous membrane, but there was, nevertheless, more or less constant epiphora. Incidentally, he called my attention to some trouble with the nostril on the side of the affected tear-duct. I discovered a broad superficial ulcer underlying the anterior end of the inferior turbinated bone. This was speedily cured by a few applications, and his lachrymal trouble soon disappeared. This was the first inkling I had received of the important relation which might exist between certain cases of lachrymal disease and affections of the nasal passages. At that time, so far as I knew, literature was silent upon the subject. From that time to this, it has been my uniform practice to carefully inspect the nose in every case of lachrymal disease.

Dr. de Schweinitz's paper is an admirable statement of facts, with which my own experience is strictly in accord, in a large group of cases suffering from this very troublesome and persistent affection. These facts explain why so many cases of epiphora present no marked stricture of the lachrymal duct. I have also had experiences the counterpart of

that related by Dr. Jackson, where the probe was passed freely until the nasal end of the duct was reached, and there, meeting with resistance, if forced roughly into the nose, will cause bleeding from laceration of the inflamed and swollen mucous membrane, closing or blocking the nasal orifice of the canal.

Another practical bearing of these facts in ophthalmic surgery is, that since the lachrymal passages are liable to disease by extension upward from the nose, which furnishes such perfect conditions for the rapid development of micro-organisms, the nasal passages may become the source of infection for the eye itself. It suggests the necessity for great care in this direction, particularly before and after operations upon the eye. We may deluge the conjunctival sac with antiseptic lotions before opening the anterior chamber, bandage the eye, and imagine that all has been done for the safety of our patient, whereas the facts set forth this evening suggest the possibility of infection from the nose through the lachrymal duct. With this possibility in mind, I have of late years recognized the importance of washing out the lachrymal sac and nasal passages with bichloride of mercury solution where I expect to bandage the eyes after operation.

If affections of the nasal mucous membrane are then the origin of a considerable group of cases of lachrymal disease, it is obviously unwise to treat the duct harshly by probing until after the nasal disease is excluded. The function of the lachrymal duct is not performed in the manner of a drain-pipe, but is rather a capillary tube, and its inflammations may often be cured by washing with suitable lotions. Probing is often necessary, but rarely with the idea of dilating the capillary tube into an open canal. In 1877 I urged that the proper function of the probe was to induce absorption of the products of inflammation in the thickened membrane lining the duct, rather than the rupture of a stricture or dilatation of the duct.

Dr. Alexander B. Randall: I do not think I can add anything to what has been said. I have not met with a great deal of lachrymal trouble in the three or four thousand cases seen at the Episcopal Hospital. I have met, in that number, with only thirty that required absolutely lachrymal treatment. I recall a large number of cases where the nasal trouble seemed to be the cause of the affection, and where treatment directed solely to the nose has resulted most happily. In a large number of children with watery eyes I have never, I believe, with one exception, used any other treatment than that to the nares and lower end of the duct, and have had no reason to regret the absence of other forms of treatment. I have always thought that the puncta, with their arrangement of vessels and the arrangements of the upper part of the lachrymal passage, had a decided physiological purpose, and that it was a great disadvantage to treat these parts by incision and probing if there were no absolute necessity for it. In directing attention to the primary incision and to the constitutional treatment of the case, my results have been most satisfactory with a minimum amount of necessity for surgical procedures directed to the upper part of the lachrymal passages.

Dr. Ralph W. Seiss: With regard to the nasal lesions found in these cases, in the instances that I have seen they have been almost altogether of two types. One is enlargement of the anterior nasal spine with ecchondroses of the septum and swelling of the mucous membrane; the other is atrophic and sclerotic changes. It is important to keep this in mind, as it has an important bearing upon the treatment. The galvano-cautery is an admirable agent in the treatment of nasal troubles, but it must be used with caution in these cases. I have seen seven or eight cases of lachrymal obstruction following the reckless use of this agent to the lower turbinated body. When I receive such a case for treatment I am more apt to use trichlor-acetic acid or a single crystal of chromic acid than the cautery.

Dr. L. Webster Fox: There was one point which was not discussed by Dr. de Schweinitz in his paper, and yet my observations have led me to believe that it plays a very important rôle in the causation of lachrymal disturbances, and that is, the asymmetry of the face. A deviation from the middle line by the nasal bones or septum would perforce cause a modification of the calibre of the lachrymal canal on that side. Any irritating substance lodged in this constricted channel could not find easy escape, and in consequence inflammation develops which eventually would lead on to lachrymal abscess. Then, again, closure of both upper and lower openings of the canaliculi caused by chronic conjunctivitis or blepharitis, proves again that asymmetry must play a factor in these cases, for with both eyes afflicted more or less, but one side of the drainage canal is effected. In 1884 all cases of lachrymal obstruction applying to the eye department of the Germantown Hospital were referred to Dr. S. MacSmith for nasal examination. I was in hopes that we could trace all lachrymal disorders to disturbances in the nasal cavities, but we were doomed to disappointment. While a certain number of cases had undoubted nasal complications, yet in many the lesion was found on the side opposite to the epiphora or lachrymal abscess. In some few cases we found the applied treatment to the nasal cavity did give relief, but in the majority we found that you must apply treatment to the orbital end of the canal to obtain good results. Dr. de Schweinitz did not dwell upon the treatment of lachrymal disturbances, which I regret; for, after all, we desire to learn from each other the best means by which a cure may be brought about, or at least to alleviate our patients. My experience has led me to adopt the larger Cawper probes, followed by the insertion of a silver tube. In certain forms of epiphora a simple dilatation of the mouths of canaliculi will alleviate the patient, or slitting up, as suggested by Mr. Bowman; but where you have a stricture or lachrymal abscess, or both, I adopt the radical treatment—dilatation to its fullest capacity. As regards the application of astringent washes, I have never had much success from their use alone.

Dr. Charles Hermon Thomas: The paper which Dr. de Schweinitz has read is an interesting and valuable contribution to the treatment of lachrymal obstruction. It, and especially the discussion which has taken place, has strongly emphasized a phase of the subject on which I confess I have not laid much stress in my own experience, which has withal been a not unsuccessful one. For a good many years I have had such satisfaction in the treatment of these cases as to leave little to be desired. I do not doubt that many of these cases can be relieved from the nasal side, but I must believe that there are a number of cases which can hardly be treated successfully in this way, exclusively cases in which the irritation has been so long continued that it has resulted in what might be called organic stricture as distinct as stricture of the urethra. Such cases certainly demand local treatment at the point of obstruction.

It was in 1868 that Stilling made the announcement of the results obtained by the use of the knife which he devised for the purpose of cutting strictures of the lachrymal duct. I was impressed with the value of the method of treatment proposed by him, and also with the want of adaptation of the knife which Stilling figured for the purpose. It seemed to me that the stiff conical blade was faulty. I therefore devised a knife with a blunt conical tip, with the edge so set as to cut in withdrawing only, and attached to a flexible shank so that it could be bent to conform to the shape of the bony canal, and yet be rigid enough to control the blade. By slitting the lower canaliculus and first passing some of the more delicate probes, especially those of Dr. Williams, of Boston, this knife may be slipped down and a free linear incision made. The stricture is then divided completely even to the bone, and a large leaden style is introduced and allowed to remain for a few days or weeks at most, being removed daily for a time, for the purpose of washing the passage with some antiseptic fluid. By this method I have had such success as seems to leave little to be desired, and can hardly think that the time has arrived to abandon that method altogether and turn these cases over to the rhinologist. Indeed, I do not now recall a single case in which I had difficulty from obstruction at the lower end after I had gotten a passage through. The facts brought out by Dr. de Schweinitz doubtless make it most desirable to have the nasal passages of patients suffering from epiphora examined, and any abnormalities found therein treated. It is my purpose to return to this subject in the near future, and to enter more into details as to the method of treatment here briefly sketched.

Dr. George M. Gould: I wish to go one step further than Dr. Thomas in emphasizing the importance of ophthalmological treatment as such. There can be no question as regards cases such as Dr. de Schweinitz has presented. When there is absolute impermeability of the nasal end of the duct, the treatment is, of course, outlined by the diagnosis. In the greater number of cases, however, there is not absolute obstruction of the duct, but simply a stenosis, an unhealthy congested condition of the lachrymal mucous membrane, the duct certainly being patent to some extent, but not enough to carry off the large excess of tears. The frequent use of probes has seemed to me not only not necessary but simply superfluous in these cases.

During the past year I have employed a plan of treatment

in such cases, which has been so successful that I shall outline it. It consists in slitting the punctum vertically downward toward the palpebral fold, in order to increase the size of the opening. Then canting the patient's head to one side, the corner of the eye is filled with an antiseptic astringent lotion. The duct should first be emptied by pressure, and then allowed to fill with this solution. This procedure of emptying and refilling the duct is repeated several times, and thus the antiseptic solution is brought in contact with canaliculus, sac, and duct by capillarity and pressure. I have had cases in which, after showing the patient the method once, he has afterward practiced it himself and come back in a week perfectly cured. The method is simple and effective, and can be carried out at home. I have often wondered in those cases where probing has been employed, whether it was the probe of the antiseptic lotion that had done the good.

In regard to slitting the canaliculus, I may say that I do not do this at the beginning of the treatment. If there is narrowing of the puncta the fluid enters more readily if it is cut.

Dr. George Friebis: I should like to ask whether, in the experience of Dr. de Schweinitz, he has met with obstruction due to such causes as inflammation and enlargement of the caruncle? I have in mind one case (a male adult, past middle age), in which I paid little attention to the inflamed caruncle, and the case did not improve under the routine treatment. Upon recognizing the inflammation of the caruncle as a possible cause, and treating it with astringents, I succeeded in curing the epiphora without further instrumental interference.

Dr. de Schweinitz: I have presented this series of cases simply for the purpose of classifying one of the many varieties of lachrymal obstruction. I beg Dr. Thomas will not think that I wish to transfer the treatment of lachrymal obstruction to my friends, the rhinologists, much as I value their aid in the management of some of these cases, and I heartly agree with Dr. Thomas and with Dr. Gould, that the ophthalmological treatment of lachrymal obstruction is of paramount importance. These cases illustrate merely certain failures in treatment when applied to the ducts alone, because there is obstruction either at the inferior end of the duct or from intra-nasal lesion. I have not intended this evening to include the large number of cases due to obstruction in the canaliculus from polypi, from tear-stones, from fungus, or to the cases of obstruction high up, or to those which result from conjunctivitis and from malposition of the punctum lachrymale. Dr. Fox's observation in regard to asymmetry of the face is an important one, and deserving of much study. In regard to the use of large probes, I might not find myself in accord with Dr. Fox. Abnormal position of the caruncle or its enlargement, as referred to by Dr. Friebis, is an interesting anomaly. You are all familiar with the cases reported by Von Græfe and by Horner. I have some knowledge of a similar case occurring in the practice of Dr. Wallace, of this city. Cases of this character, or others which have been brought up into discussion, have been purposely omitted in the paper of this evening. My idea was simply to show that certain examples exist, and they are not infrequent, which can be treated better with than without the aid of the rhinologist.

NECROLOGY.

Dr. Edward W. Clarke, of Englewood, N. J., died April 11, 1892, somewhat suddenly, after the performance of a surgical operation. One week before his last illness he was in active practice and seemingly in his usual health. Symptoms of septicæmia and scarlet fever declared themselves, and became progressively worse, notwithstanding the persistent efforts to thwart the disease on the part of Dr. H. M. Banks, his father-in-law, and several consultants. Dr. Clarke was born in Manchester, N. H., about thirty years ago. He took his academic degrees at Columbia College in 1883 and 1884, and his M.D. at the College of Physicians and Surgeons in 1887. He was appointed to the junior surgical staff of the New York Hospital in the same year. After his service ended there, he determined to settle in Englewood and he had already made a markedly favorable impression in that locality. He leaves a widow and two young children to mourn his loss. A most promising career has been, at its commencement, cut short in the pursuance of a natural and inevitable round of professional duty.

Sulphide of Calcium in Diseases of Children.—Dr. H. Valentine Knaggs writes to the *Archives of Pediatrics* in praise of sulphide of calcium as a remedy for infantile convulsions and other nervous diseases.

He claims brilliant results from this medicament when given for the convulsions which occur from teething, falls on the head, meningitis, and even acute tuberculosis. In these cases which are often so intractable under ordinary methods of treatment, sulphide of calcium may effect a cure after other means have failed.

Dr. Knaggs regards calcium sulphide as a much more powerful preparation than has ordinarily been supposed, consequently the dose must be small. The dose will vary from one-eighth to one-twentieth of a grain every hour, or less frequently, according to the severity of the case. The drug must be freshly prepared and active, as it soon loses its virtues and becomes inert. It may be given with ordinary sugar, or sugar of milk. Antipyrine may be sometimes alternated with the sulphide to advantage.

The method which Dr. Knaggs recommends to be adopted in a case of threatened tubercular meningitis consists in cautiously administering the sulphide of calcium in suitable doses, and in holding over antipyrin, should the sulphide prove to be too depressing. With care in giving just sufficient of this drug to act beneficially on the diseased brain, the antipyrine will be seldom called for. The patient ought also to be kept in a continuous atmosphere of eucalyptus steam from a drachm of the oil placed in a bronchitis kettle, or by the occasional use of a small hand-spray charged with the tincture. He reports five cases of tubercular meningitis where he thinks he saved the lives of the little patients by the use of the sulphide.—*Kansas City Medical Record.*

The Digestibility of Cheese.—It is the general opinion of the laity that the eating of cheese after taking food is an assistance to digestion. This view seems not to be in accord with the result of experiments made by von Klenze, as recorded in the *Allgemeine Medicinische Central-Zeitung*, No. 18, 1891. He made very thorough tests of the various forms of cheese found in the dietary lists. For the experiments he used an artificial digestive fluid, to which were added 50 cc. of fresh gastric juice and 3 cc. of hydrochloric acid. Into this he placed a gram of the cheese to be examined. Eighteen varieties were tested, and the following deductions made: Chester and Roquefort cheese took four hours to digest; genuine Emmenthaler, Gorgonzoler, and Neufchatel, eight hours; Romadour, nine hours; and Kottenberger, Brie, Swiss, and the remaining varieties, ten hours. Considering that in a healthy stomach digestion after an ordinary meal is complete in from four to five hours, it would seem from von Klenze's studies, that Chester and Roquefort cheese were the only kinds that were likely to be digested within this length of time, and that the other varieties, some of which are largely in use, not only did not assist digestion, but actually retarded it.—*New York Medical Journal.*

Infant Mortality in France.—At a recent meeting of the Society for the Protection of Children in France, Dr. Rochard (Chairman) stated that France loses every year 250,000 infants, and that out of this number there are at least 100,000 whose lives could be saved with intelligent care.

College Commencements.—The Western Reserve Medical College graduated a class of thirty-four at its last commencement.—*Medical Record.*

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SATURDAY, APRIL 23, 1892.

ADVERTISING SHEETS, ETC.

TO WHOM IT MAY CONCERN: Refer to THE JOURNAL of June 7, 1890, and there read the action of the Association, as follows:

Dr. Brodie offered a resolution prohibiting the placing of books and other advertising sheets on the seats, when Dr. J. H. Hollister offered the following, which was accepted by Dr. Brodie:

WHEREAS, Certain parties without authority are presuming to make use of the Association for the furtherance of advertising interests; therefore,

Resolved, That at all future meetings of the Association, such publications be excluded from the place of meeting either of the General Sessions or of its Sections.

Resolved, That in the future each Chairman of the Committee of Arrangements be directed to procure a copyright of the Official Programme, to the end that the financial rights of the Association may be protected by due process of law.

This was unanimously adopted.

A MEDICAL MISSIONARY SCHOLARSHIP IN LONDON. SURGEONS IN GREAT DEMAND.

The Moravians of England have shown a marked interest in the medical work of their brethren who have exiled themselves to Thibet, and other remote outposts, for the benefit of the heathen. The loss of DR. MARX by epidemic influenza at Leh, in Ladek, has intensified this interest, and a kind of memorial medical scholarship has been begun in London. The March number of the journal *Periodical Accounts*, contains the following statement: "As it costs each medical practitioner at least £300 to qualify (in London or England), it is thought well to aim at a medical missionary training fund to provide for the full course of at least one candidate, preferably from the British Province. We would gladly provide, by a medical scholarship, for the training of a series of candidates for this branch of the service, but that would require a capital of from £6,000 to £8,000."

Contributions have already been made, and others are expected. The lists are to remain open to make up the sum desired until July, 1893, by which time it is hoped that the benefits of the fund will have been claimed by some British candidate. If this expectation is not fulfilled, the fund may be extended to any other province of the United Fratrum.

The following is a picture of what missionaries, not medical, have sometimes to undertake. The REV. JAMES LUKE, of Old Calabar, West Africa, writes: "One morning very early, there lay a larger number of sick and sore around the mission-house gates. He and his assistant rolled up their sleeves and worked busily for two hours. Most of the patients were strangers, with the following story to tell. Their spokesman, a tall, well-knit native, with face lined with care, said that his party had come from a town more than one march of the sun to the eastward. They had often heard of the white man and his wondrous medicines, but never before had they had the courage to make the journey. But of late sickness had been rife, and they were made bold by their despair. The chief went through and through all the village and sought out the sick, put them in a long canoe and paddled them slowly down. Many were sick, some were dying, and there was none to heal them. And so this new aboriginal floating hospital ward was brought down from a town whose name was hardly known at the station. In the face of this pathetic picture, what wonder is it that the missionary exclaimed that his one desire was, 'Oh, would I were a medical missionary.' The little knowledge of medicine that he happened to have has served him well at times, but it is because he is not a medical man that he is prepared to favor the extension of medical stations 'all over the sad, sore and suffering face of heathendom.'"

Medical men themselves are equally emphatic as to the prime importance of surgery especially, as an entering wedge when commending civilized training and doctrine to the heathen mind. The surgeon with his chloroform and array of instruments, wins a degree of confidence which can be imagined better than described. This is exemplified by the following narrative of a Swedish surgeon, located on the lower Congo. He had a young African patient with a bad case of "Madura foot," so far advanced that amputation was expedient. The young man was anxious to be rid of his troublesome member, "but first," he says to the surgeon, "he wants to be killed, and when the foot has been taken off, the surgeon will *raise him from the dead*." This is the impression produced upon the poor fellow's mind by happening to see this surgeon do a minor operation under anæsthesia. The most simple surgical procedures, in not a few of the dark continents and islands of the globe, have the force and mystery of superhuman and miraculous achievements. Surgery is able to unlock doors that are sealed against every other civilized agency.

THE SECTIONS, ETC.

In a previous number we directed attention to the meeting of a Committee appointed at the last meeting of the Association, to consider the best means for promoting the prosperity of the Sections. This Committee is constituted of representatives from each of the several Sections, and is to meet at the Cadillac Hotel in Detroit, June 6, at 3 P.M.

Responses have been received from every member but one of that Committee, announcing their interest and intention to be present. The prosperity of the Association as a whole is entirely dependent upon the general prosperity of the Sections. At the last meeting of the Association, it was quite evident that some of the Sections were accomplishing much more satisfactory work than others, which has been, we think justly, attributed to the working organization of such Sections, and that just in proportion as the Sections were independent in their autonomy of the general management of the Association, was this success apparent.

A very few years ago the Dental Section was formed, and because very many practicing dentists were graduates of Dental Colleges and not of recognized Medical Schools, it was necessary that they should have their own autonomy. This has worked very satisfactorily, and the Dental Section has been a great power for good, in encouraging dentists to complete their professional education by taking the regular degree of Doctor of Medicine, as well as that of Dentistry, so that they may come into closer harmony with the medical profession as recognized specialty practitioners.

A couple of years later the Section of Materia Medica and Pharmacy was formed, in order to in like manner encourage Pharmacists to obtain a more liberal professional education by taking degrees in Medical Colleges, and thereby become recognized as specialists in Medicine.

The action of the Association, in constituting these specialty Sections, is in harmony with the trend of men's thoughts, which so largely look to a unification of workers in kindred channels.

The foundation for any good specialty work must be laid on a broad and comprehensive course of study. Where young men have had the advantage of such study, they are able to develop, and do progressive scientific labor in any specialty for which they may have either taste or inclination. Division and subdivision of labor carries with it perfection of detail.

* * * * *

The special work of the Committee on Section prosperity may also very properly formulate some necessary changes in the working plan of the Association. At the last meeting, the Association directed the President to appoint such a Committee, but in the multiplicity of his work the appointment was unintentionally overlooked, so that, as the purposes of the United Sections Committee are somewhat in the same line, and to carry out the expressed wish of the Association, action on this subject may be taken, for presentation at the general meeting on the next day.

These are exceedingly important questions and subjects for consideration, and are of such common interest that it is very desirable that those having opinions to express, will do well to communicate their views by letter to DR. JOHN S. MARSHALL, No. 9 Jackson St., Chicago, or to DR. LEARTUS CONNOR, Detroit, Mich.

* * * * *

The several State Societies should be brought into closer union with the Association. In fact, there should be a practical federation of these organizations, whereby all the members of the State societies by virtue of such membership shall become actual members of the American Medical Association; their attendance upon its annual meetings may be optional, but a certificate of membership in a State society should carry with it membership in the National Organization.

The Section Committee will consider this subject, and any member of the Association who wishes to say his say on this, will be good enough to correspond with the Committee of which DR. J. S. MARSHALL of Chicago, and DR. L. CONNOR of Detroit, are members.

It would be a real good thing for the officers of the several State societies so far as possible to attend this committee meeting in person, or communicate their views upon this subject to the above named members of the Committee, and they should by all means make it a point, and if necessary strain a point in order to be present at the Detroit meeting on the 6th or 7th of June.

* * * * *

State, County, District and other local or general medical societies which are in affiliation with the American Medical Association, should at their next meeting, if it is not already done, elect delegates to the Detroit meeting of the American Medical Association. This promises to be one of the most important meetings to the entire profession that has ever been held.

* * * * *

Members of the Association should make it a point to secure the promised attendance of the largest possible number of delegates from their local societies.

* * * * *

The most enjoyable outing a doctor can have is to take his wife with him and go to the annual meetings of the American Medical Association. The gatherings are congenial, and the entertainments prepared for the delegates and their wives are not excelled anywhere. The delegate who once takes his wife to

a meeting of the American Medical Association never again gets an opportunity to stag it off alone the next year. A successful attempt at such a one-sided proceeding, is sufficient to keep a man in the edgiest kind of unhappiness for a whole year, with no end of demands for sealskin wraps, laces, and other things that he hears of, and finds out about before the next meeting. Don't do it, we mean don't leave her at home, but make your collections a little closer, she'll help you if necessary, and take her right along.

* * * * *

The meeting this year is at Detroit, the metropolis of the State of Michigan.

DR. H. O. WALKER is chairman of the local Committee of Arrangements and he has succeeded in inducing the whole Michigan State Medical Society to become the hosts of the delegates from all the other forty-three States.

To even think of this, is or should be sufficient to make every man who practices medicine determine to arrange his affairs to enable him to go to Detroit along about the first week in June, say to get there about the 4th to the 7th.

* * * * *

We have in reserve a special announcement for next week that we are quite sure will add somewhere in the neighborhood of—well, two to three thousand delegates and their wives to the number who have already made up their minds to go.

So that the man whose mind is sort o' wavering, may just as well determine at once as in the future, to follow the example of Crockett's coon and come down, and make his arrangements to go to Detroit along about the first week in June.

* * * * *

The past has been a real good year all over the country for doctors. Lots to do, large crops, and plenty of money in circulation and nearly every one of them is entitled to a little outing, and the very thought of becoming a guest of the entire Michigan State Medical Society—just think of it but a moment and you are, not lost, but going to Detroit.

* * * * *

Next week lay your copy of THE JOURNAL where your wife can get at it conveniently. This is offered as a mild suggestion.

BRIGHT'S DISEASE—UREA—SEROUS MEMBRANES.

Of the various theories of Bright's disease, those seem the most rational which regard the process or processes as primarily nutritional disturbances, with secondary structural involvement of different organs. The first important structural derangement is probably endarteritis, with later involvement of the kidneys. We are not at present concerned with the various lesions, nor with the etiological factors, leading to the disorder. In this view of the matter, it becomes important to know the earliest phenomenon which can be relied upon to indicate the presence or approach of these very serious lesions. The general symptoms, headache, vertigo, neuralgic pains, dyspnœa, anæmia, etc., are too indefinite for practical application. The appearance of albumin and casts in the urine occurs too late for the purpose, and albuminuria alone is altogether too uncertain a sign to be of much importance.

It has long been known that the daily excretion of urea is diminished in Bright's diseases, but it has remained for DR. C. S. BOND, of Richmond, Ind., to thoroughly apprise the profession of the importance of this factor, and to show that it precedes the other positive evidences of the disease for a considerable period. Nearly three years ago DR. BOND reported[1] fifty cases illustrating his views, and which had been under observation from two to five years. Four of these cases, besides showing a diminished daily excretion of urea, were passing large quantities of albumin with casts. Of the four, three showed chronic nephritis post-mortem; the fourth was not cut.

Three more of the cases showed diminished urea secretion, but no albumin or casts, and one of these was proven to have nephritis by autopsy. Three other cases that died likewise had diminished urea excretion, but only passed albumin and casts later. An autopsy was obtained in one of these cases, and showed chronic nephritis. The remaining forty cases reported, were all living at the time of the report, some apparently well, others not. All had symptomatic evidences of Bright's disease, eighteen had albuminuria, sixteen of these passed casts, but in all the excretion of urea was diminished. Upon these grounds DR. BOND claims, and rightly we think, that diminished excretion of urea is an evidence of Bright's disease, and the earliest certain symptom. But for this sign to be of importance, the patient must be upon a mixed diet, otherwise healthy, and the diminution of urea must exist during a considerable time as shown by frequent examinations. DR. BOND regards 25 to 35 grams of urea as a normal daily excretion and his Bright's cases excrete daily from 10 to 20 grams, averaging about 15 grams. He has found the simple ureometer of Doremus sufficiently accurate for his purposes.

Extending his researches DR. BOND has called attention to the relation of urea excretion to disease of the serous membranes.[2] It is well known that Bright's disease is often complicated by a sudden effusion into the pericardium, or pleural cavity. It occurred to DR. BOND that inflammations of serous membranes might at times be caused by latent Bright's disease, that is to say, by the conditions preceding the manifestations of the disease, and if so, such cases could be differentiated by diminished

[1] American Journal Medical Sciences, Vol. 99, p. 22.
[2] Amer. Jour. Med. Sciences Vol. 102, p. 269.

urea excretion. And upon actual examination he found this to be true. One of the most interesting cases which he reports in this connection is one of acute pelvic peritonitis. The patient was a married lady of twenty-three, well-nourished, no children or miscarriages, no history of gonorrhœa or syphilis. No traumatic or other cause could be found. The attack commenced with chilly sensations, and acute pain in the abdomen. Temperature was 103, pulse 120, facies characteristic and nausea present. Serous effusion occurred, the pelvic floor became hardened, and the uterus became fixed. The case terminated in recovery, and the effusion was absorbed after several weeks. But she still complained of headache, slight nausea, dypsnœa on exertion, and general weakness. Examination of the urine showed no albumin or casts, but the daily excretion of urea ranged from 12 to 18 grams. Six months later there was a relapse of the peritonitis, when in addition to morphia to relieve the pain, pilocarpine and saline cathartics were employed, with the result that the peritonitis, which promised to be more serious than the first attack, terminated abruptly in three days. After this nitro-glycerine, saline cathartics, and sudorifics were vigorously employed, until the urea excretion became normal, and the patient apparently perfectly well. She now became pregnant and at the eighth month labor set in, and with it convulsions, the case ultimately terminating favorably. At the time of delivery the urea excretion was 9.6 grams.

In addition to this case DR. BOND refers to three more cases of pelvic peritonitis, to four of pericarditis, two of arthritis, and four of endarteritis, which show diminished urea excretion. To this list we can personally add one case of hydrocele.

It is hardly possible to overrate the importance of these observations. It certainly seems that DR. BOND has pointed out a very important diagnostic sign. At least diminished urea is an evidence of deficient elimination, and is an important means of determining when certain conditions, particularly serous inflammations, are autogenetic.

A PUBLIC HEALTH OFFICER IN THE PRESIDENT'S CABINET.

With scarcely an exception the American medical journals have supported the movement inaugurated at the last meeting of the American Medical Association, which urged upon Congress the necessity for, and value to the Nation of a Cabinet Officer of Public Health.

The secular press have also, greatly to their credit, supported the measure.

In fact, the proposition has met with very little adverse criticism in any quarter.

The American Medical Association having started the work of obtaining proper legislation to this end, and with entire unanimity on the part of its members in session at Washington, it is now very desirable that the State Societies should, at their meetings, take up the subject and adopt suitable resolutions affirming the desirability of prompt action on the part of the present Congress in its enactment of the bill now pending, and urge upon all State Society members to correspond with their own members of Congress in behalf of the bill.

We again urge the members of the American Medical Association to renew, and not relax their labors and correspondence on this subject that is of such vital consequence, not only to the medical profession, but to the entire people of the Nation.

New questions pertaining to sanitation and hygienic living, immigration and education, are constantly arising, and should have a reference for correct solution to a Public Health Department of the National Government.

A bill recently introduced pertaining to the adulteration of foods and drugs, can only be successfully executed through a Public Health Officer of the Government. Because of the non-existence of such a department of the service, the execution of this bill is saddled upon the already overloaded Secretary of the Treasury.

State, County and District Medical Societies can do very much by prompt action in making appeals to Congress to take action on this measure at an early date.

Many important questions are arising in connection with the World's Columbian Exposition, which should have a reference to and solution in the Nation's Department of Public Health.

ST. LUKE'S HOSPITAL OF NEW YORK.

This hospital must before long be removed to a new location. An admirably adapted site has been purchased for about $500,000 on the westerly side of the city. Only one hospital building will be erected at the present time, but the cost of this first ward will be not less than another half-million. Work will be begun so soon as the plans are drawn. The new structure will be patterned after the best that can be found abroad or at home, and in its equipment it will be as good as the best. The sale of the old site, valued at $2,500,000, will enable the trustees to add a large sum to the endowment fund. This will be drawn upon for the construction of other buildings as they may be required.

St. Luke's Hospital has always the good wishes of the medical profession; not simply because of its name — that of our patron-apostle — but because of its long history of honorable and considerate dealings with the members of the medical staff. That staff has embraced a fine body of gentlemen, and they have been recognized as such by the manage-

ment. The new situation is on Tenth avenue and 114th street, near the head of Morningside Park.

FAVORABLE OUTLOOK FOR ELECTROCUTION IN NEW YORK.

The eighth electrocution in New York State took place March 28, with essentially the same results as the former ones. Death was almost instantaneously affected although the beating of the heart was not stilled until after three contacts of twelve seconds each. In former executions the heart was stilled in the course of two contacts of twenty to thirty seconds' duration. It is stated that the results are considered favorable to the maintenance of the electrocution law upon the statute books. No further opposition to the law is expected at the present session of the legislature. There was a kind of tacit understanding that if this execution passed off without mishap or blunder or any great amount of disfigurement of the criminal, the method should be allowed to go on, during another year, on probation. The friends of the method believe that improvements will be made, and every reasonable objection will be removed.

DR. SAMUEL D. GROSS.

We are in receipt of the following circular which is self explanatory:

A monument to the late Samuel David Gross, M.D., LL.D., D. C. L., Oxon; LL.D., Cantab.; LL.D., Edinburgh; LL.D., Univ. Penn., etc.

"American Medicine and Surgery has had no abler exponent than Samuel David Gross!

"There has been no man in our profession more honored by scientific associations and learned institutions, both abroad and at home, than Dr. Gross; none who have been more admired by their fellow practitioners, or revered by former pupils!

"A boy of studious habits, ambitious promptings, integrity of purpose, and purity of character; without the prestige of a name, or the influence of family or fortune, he rose, unaided, to the highest position in the profession of his selection. A man of marked personal character, with great acquirements, he made an impress upon American Surgery, which has served to dignify American Medicine!

"His long and brilliant record of deeds well done, has claimed the admiration of the world; and since he has passed away and his life-work gone into history, his friends and admirers have been inspired to erect to his memory such a monument as will commemorate his life and character.

"To further this most praiseworthy object, the American Surgical Association, at its last session, adopted the following resolution:

"'*Resolved:* That the President be empowered to appoint a committee with authority to confer with the friends and admirers of the late Prof. Samuel D. Gross, and with the *profession at large*, for the initiation of a movement on the part of the Association, having for its object the erection of a monument to Dr. Gross in the City of Washington, D. C.'

"The subjoined committee from the Association has been appointed, with authority to confer with the *profession at large*, and solicit subscriptions.

"It is not the purpose of the American Surgical Association to claim the honor of erecting this monument to the memory of one of its most distinguished Fellows; but rather is its intention to *initiate* a movement in which the entire American profession should feel an equal interest: because Dr. Gross was of no exclusive faction, but a leading member of the whole profession.

"Hence it is, that each member of the committee is instructed to appoint sub-committees in his own State, irrespective of fellowship in this, or any other Association, which sub-committees will aid him in the collection of contributions to the general fund. Any contributions may be sent to Dr. Jno. B. Roberts, 1627 Walnut street, Philadelphia. He is the treasurer of the Association and will receipt for the same, and from time to time acknowledge subscriptions through the columns of THE JOURNAL of the American Medical Association. In the event of a failure to collect a sum sufficient to complete the monument, the contributions will all be returned to the subscribers.

J. R. WEIST, M.D., Chairman.

C. H. MASTIN, M.D., Secretary.

Committee: Drs. Wm. T. Briggs, Tennessee; Levi C. Lane, California; Solon Marks, Wisconsin; L. S. Pilcher, New York; A. Vanderveer, New York; James McCann, Pennsylvania; D. Hayes Agnew, Pennsylvania; J. Ewing Mears, Pennsylvania; S. H. Weeks, Maine; Hunter McGuire, Virginia; L. McLane Tiffany, Maryland; N. P. Dandridge, Ohio; H. H. Mudd, Missouri; J. Collins Warren, Massachusetts; B. A. Watson, New Jersey; D. W. Yandell, Kentucky; N. Senn, Illinois; Chas. B. Nancrede, Michigan; W. H. Carmalt, Connecticut.

There is not a single physician in our entire Nation who is not familiar with the name and professional achievements of the late Dr. Samuel D. Gross, and certainly there is not a member of the American Medical Association who will not personally rejoice that the American Surgical Association has inaugurated this movement in his honor. This work should assume as largely as possible a popular character, and receive the support of nearly the entire number of our profession. To this end the cause should be presented at the ensuing meeting of the American Medical Association, and to every State and District Medical Society. Those who can afford an offering of ten or five dollars should remit to Dr. Roberts at once, but there is an army of nearly six thousand members of the American Medical Association who will no doubt almost every one respond with sums of three, two and one dollar contributions. Send your subscription promptly, get your name placed in the list and THE JOURNAL will make the record just where you will see it. For further information correspond with either Dr. Martin, Dr. Weist, or Dr. Roberts.

EDITORIAL NOTES.

A PROFESSIONAL IMPOSTOR.—Dr. Aspad Gerster writes to the *New York Medical Journal* giving warning of a fraudulent canvasser who calls himself "Dr. Goodman." The party is a bad man and not a doc-

tor, and he may change his name from time to time. According to Dr. Gerster the fraudulent operations of the man consist in offering and selling a gas-fixture, or some other implement of merit and utility, receiving money therefor and then not delivering the goods. The man adds to the plausibility of his scheme by quoting the name of Dr. Gerster, or some other medical man of note, as that of a schoolmate, friend and endorser. Dr. Gerster says that an impostor of this kind has succeeded in extracting sums of money from physicians in several Western cities. The man is now in the Eastern States.

AN OVERDOSE OF GOLD.—In December last, a French soldier met with death by gold instead of lead. Having been accused of the theft of a sum of money, he followed the course, not unknown in the Orient, of secreting the stolen cash in his stomach. He swallowed the money, and by so doing was acquitted by the judge, because there was no tangible or exterior evidence of guilt. He was set free, but disease presently arrested him; he became the subject of an acute attack of indigestion, due to the ingested gold. This attack subsequently resulted in death. An autopsy was performed and there were found in his stomach twenty-one gold coins, of a value of eighty-five dollars to some former owner. The lethal dose of gold has not been recorded hitherto in the text-books on toxicology, but it can in the future be stated that the quantity above mentioned "has been followed by a fatal result."

PRIZE MEDAL RE TUBERCULOSIS.—The Société de Médecine de Paris has offered a prize for the best essay on tubercular disease that shall be written during the current year. The prize will be a gold medal and a purse worth three hundred dollars.

PAN-AMERICAN MEDICAL CONGRESS.—Dr. William F. Hutchinson, formerly of Providence, but now Assistant Secretary of the proposed Congress, after having been absent two months in the West Indies for the purpose of furthering its interests, returned to New York April 12. He came as a passenger on the steamer Neptune from Jamaica. He reports that he was most cordially received by medical men and in official circles, and that he was enabled to organize a number of branches of the Congress, especially in Spanish-speaking countries, which will probably interest themselves to a degree that had not at first been anticipated.

SURGEON-GENERAL OF THE NAVY.—Medical Director John M. Browne has been appointed to succeed himself at the head of the Medical Naval Bureau. After four years of service in that position, and with only a year intervening before the time of his statutory retirement, the authorities at Washington have found it expedient to make no change during the current year. It has been publicly stated that the other applicants for the appointment have, as a rule, requested their friends at the seat of Government not to press their claims if Dr. Browne had any prospects of reappointment. As a result of this and other considerations, the appointing powers have postponed a part of their responsibilities until May, 1893. Surgeon J. C. Boyd, it is said, will be promoted to the position of Assistant to General Browne. Medical Inspector Van Reypen, the present assistant in the Bureau, will probably be assigned to the Pacific Station, as Fleet Surgeon, on board of the San Francisco.

WORTHY OF IMITATION.—"*An Ordinance to Prevent Empiricism.* Be it ordained by the Board of Councilmen of the City of Bowling Green:

"SECTION 1. That it shall be unlawful for any travelling or itinerant doctor to practice medicine in any of its branches within the limits of this city. To open an office for such purpose, or to announce to the public in any other way an intention to practice medicine shall be an offense within the meaning of this Ordinance. Provided, that nothing in this Ordinance shall be so construed as to prohibit any reputable physician or surgeon from any other place being called to see a particular case or family, or to do a particular surgical operation in said City.

"SECTION 2. Any person convicted of a violation of the provisions of Section 1, of this Ordinance, shall be fined the sum of not less than $50 nor more than $100 for each day so engaged in the practice of medicine.

"SECTION 3. This Ordinance shall be in effect from and after its passage, and all Ordinances or parts of Ordinances in conflict with the provisions of this Ordinance are hereby repealed.

"Passed Board of Councilmen April 4, 1892.

Approved. G. S. HOLLINGSWORTH,

J. K. FORBES, Mayor. City Clerk."

This Ordinance has been passed in Lexington, Paducah, Harrodsburg, Lebanon, Elizabethtown, Stanford, Franklin, Glasgow, and several other cities, and is pending and will be passed in nearly every other city and town in the State of Kentucky.

THE following letter and circular claims the attention and response of nearly every member of The American Medical Association:

PHILADELPHIA, PA., April 5, 1892.

An anæsthetic investigation has been arranged by the General Committee of the British Medical Association, for report at its annual meeting in 1892. The investigations are to be chiefly clinical.

An auxiliary committee has been formed in this country to aid the British Association, and is desirous of adding to the data of the General Committee a collection of such facts as are called for in the accompanying blank.

The Hyderabad Chloroform Commission has not settled the question as to the mode of death resulting from chloroform, but it has stimulated the profes-

sion to seek the cause from the clinical standpoint.

I should esteem it a great favor if you would kindly furnish the information asked for upon the enclosed form, and return it to me by the 5th of May.

Hoping to receive your valuable assistance in these investigations, I am, Very truly yours,

LAURENCE TURNBULL, M.D., Chairman.

1502 Walnut Street, Philadelphia.

a. Programme of records and information desired.

1. The total number of administrations of each anæsthetic, March 1, 1891 to March 1, 1892 (up to this date), in your hospital, or under your supervision.

2. The number of cases in which death has occured during or shortly after anæsthetization.

3. The number of cases in which dangerous symptoms have occurred.

b. Your opinion, formed from your own personal experience as to—

1. The relative safety of the various anæsthetics which you have used.

2. The best method and manner of administering them.

3. When to use one, and when the other.

4. The most effective methods of restoring patients threatened with death from anæsthetics.

c. Education in administration of anæsthetics.

1. How are students taught to administer anæsthetics, and how far are they compelled to gain a practical knowledge of administering them in the medical schools or hospitals with which you are connected.

d. Special details of cases in which dangerous symptoms or death have occurred.

The following synopsis will give an idea of the special details requested in case of death, or dangerous symptoms—(i. e. such symptoms as raise the fear of immediate death, and call for the use of artificial respiration).

A—The anæsthetic.

1. Its nature, e. g. ether, chloroform, etc.

2. Purity of drug, e. g. from what source obtained, how long kept, whether exposed to light, etc.

3. Whether other persons who have taken from same source have evinced kindred symptoms.

4. Method of administration; amount of dilution; length of time administered; quantity used.

B—The Patient.

1. Age; sex; physique, first time or not of taking anæsthetic; previous drugs (e. g. chloral, morphia, alcohol, etc).

2. State of health.

3. Preparation of patient; food, purgatives, clothing, temperature of atmosphere, etc.

4. Phenomena of anæsthesia, length of time going off, struggling, laryngeal spasm, convulsions, vomiting, etc.

5. Condition of pulse, respiration, pupil, reflexes. Was anæsthesia profound. Which failed first, pulse or respiration.

C.—Operation.

1. Nature and duration, patient kept warm, posture, amount of hæmorrhage, shock.

D.—After effects.

1. Faintness, exhaustion, vomiting, etc.

e. Methods adopted in cases where death or symptoms of danger have occurred.

1. (e. g. pulling forward of tongue, inversion of patient, artificial respiration (which method) nitrite of amyl, electricity, heat, etc.—and with what results.)

A NEW AND PRACTICAL USE FOR ALUMINUM.—This metal with its unlimited uses seems to be peculiarly adapted for surgical appliances, instruments and artificial limbs; its low specific gravity together with its great comparative strength are qualities that are desirable to be combined in an artificial leg or arm, and we predict a very large demand for the new aluminum limbs just about to be put upon the market by this enterprising house.

There are amputations of the lower limbs that surgeons deem desirable to make in order to remove a part or the whole of a diseased or injured foot, without sacrificing more of the member than the parts involved. We refer to amputations technically termed tibio-tarsal, tarso-metatarsal and medio-tarsal. These amputations have always been in disfavor with artificial limb makers, who have almost to a unit decried their license, and in too many instances have persuaded the surgeons to sacrifice much of a healthy leg merely to obtain a stump that would better accommodate the artificial limbs that they were able to produce.

The new artificial leg constructed of aluminum combined with the rubber foot is adaptable to the above enumerated amputations. The socket of aluminum encases the stump and on account of the strength of the metal, the socket does not increase the diameters of the ankle to an objectionable degree in order to obtain the requisite strength; the metal is cast into the proper shape to give ease and comfort to the wearer; the aluminum socket is terminated by a rubber foot, which not only produces the similation of the natural foot, but provides a soft, springy medium to walk upon, and a resistant, phalangeal ball to rise upon while walking, running or ascending stairs.

It is obvious that by this invention the amputation can be conditional upon the injury, and the artificial limb conditional upon the amputation. In this alone the invention of the aluminum and rubber leg will prove not only a boon to the man who has suffered the amputation, but the solution of a problem that has many times perplexed the operating surgeon, as it eliminates all the objections heretofore pressed against amputations in the region of the tarsus. The surgeon may thus rejoice in being able to observe the *old* and consistent law of amputating with the least sacrifice.

Aluminum also plays an important part in the construction of strong and durable artificial arms. The socket of an arm being made of that metal is light and strong, and will enable the wearer to subject the artificial arm to severe uses without danger of destruction. It will not crack from overstrain like wood; it will not become soft and limpsey or foul from perspiration like leather; it is lighter than any other metal and is amply strong for every purpose.

These inventions will unquestionably mark a new era in the industry and add much to the prestige of the house that has already achieved distinction in its humane work.

IN a recent case against the New York Hospital, the judge dismissed the case on the ground that, the hospital being a charitable institution, the laws of the State did not admit of a suit being brought against it. In this special case $50,000 was sought, on the ground that a boy lost his leg from the incompetence and negligence of the hospital surgeons and nurses.—*American Lancet.*

SELECTIONS.

THE VALUE OF A TRADE-MARK.—Diuretin (Knoll) and theobromine sodio-salicylate are chemically the same. There is no patent, so far as we are aware, preventing the manufacture of the latter by any competent chemist. As a matter of fact, a pure preparation is upon the market from the laboratory of a most reliable chemist. Diuretin is a copyrighted, or trade-marked, name. The preparation sold under that name costs $2.50 an ounce. A trustworthy preparation of the same thing, under its legitimate chemical name, costs fifty cents an ounce.

ETHER DRINKING.—The practice of ether drinking, which had become so common as to cause considerable alarm in Ireland, has begun to diminish as a result of very stringent laws. But it has been discovered lately that the habit is rapidly spreading in Russia, to such an extent indeed that the Government has found it necessary to prohibit the sale of ether, and of substances containing it, such as Hoffman's anodyne, except under severe restrictions. In Paris, also, ether drinking has become quite the fashion. It is taken there usually with cognac.—*Medical Record.*

DR. H. P. C. WILSON, of Baltimore, says that of the thousand patients who have come to him suffering from the opium habit, nearly all have been led into it by the attending physician. He thinks no diseased condition, except advanced and rapidly fatal cancer, justifies the habitual use of opium for the relief of pain.—*American Lancet.*

REMOVAL OF CLOTS FROM BASE OF BRAIN—RECOVERY.—Dr. Laplace (Philadelphia) records a case of basal hæmorrhage from perforating wound through the left orbit; coma, convulsions, and signs of compression existed. Trephining was done just above the zygoma, and a specially contrived instrument of malleable wire ("a miniature egg-beater") was insinuated between the dura and the skull to the cavernous sinus, and about a teaspoonful of clot was removed. Consciousness returned four days later, power of speech a week later still, and then recovery was steady and uninterrupted. The patient has anæsthesia of the left eye, and internal strabismus.—*Medical and Surgical Reporter.*

MISCELLANY.

AMERICAN PEDIATRIC SOCIETY, PRELIMINARY PROGRAM.—The American Pediatric Society will hold its Fourth Annual Meeting in Boston, Mass., May 2, 3, and 4, 1892.

The Sessions will be held in the Boston Medical Library Association Building, 19 Boylston Place. (Opposite the Common, between Tremont St. and Park Square.)

Monday, May 2—First Session—2 P.M.

The President's Annual Address, By William Osler, M.D., of Baltimore, Md.

2. "Experiments as to the Value of Nascent Ozone in certain Forms of Diseases of Children, with Demonstration of an Efficient Generator," by Augustus Caille, M.D., New York City.

3. "Manifestations of La Grippe in Children," Chas. Warrington Earle, M.D., Chicago, Ill.

4. "An Epidemic of Alopecia in a School of Girls," Chas. P. Putnum, M.D., Boston, Mass.

Tuesday, May 3—Morning Session—10 A.M.

1. Discussion arranged by the Council on "The Relation of Rheumatism and Chorea," by C. W. Townsend, M.D., Boston, Mass.; M. Allen Starr, M.D., New York City; Samuel S. Adams, M.D., Washington, D. C.

2. "Nomenclature of Diseases of the Mouth," T. M. Rotch, M.D., Boston, Mass.

3. Report of the Committee on Nomenclature of Stomatitis.

4. "Pseudo-Diphtheric Processes," W. D. Booker, M.D., Baltimore, Md.

5. "Treatment of Diphtheria by Sublimations of Mercury," Dillon Brown, M.D., New York City.

Tuesday, May 3—Afternoon Session—3 P.M.

1. "Typhoid Fever in Children under Two Years," W. P. Northrup, M.D., New York City.

2. "Typhoid Fever in Children," Chas. Warrington Earle, M.D., Chicago, Ill.

3. "Typhoid Fever in Infancy," W. S. Christopher, M.D., Chicago, Ill.

4. "Acute Emphysema in Children, with Report of Cases," F. Forchheimer, M.D., Cincinnati, O.

5. "Pre-tubercular Anæmia," B. K. Rachford, M.D., Newport, Ky.

Tuesday, May 3—Evening Session—8 P.M.

1. Business Meeting at the residence of Dr. T. M. Rotch, No. 197 Commonwealth Avenue.

2. Report of the Council and Election of officers.

9 o'clock, P.M.

Reception of the members of the American Pediatric Society, to be given by Dr. T. M. Rotch at his residence.

Wednesday, May 4—Morning Session—10 A.M.

1. "Prevention *versus* Medication in the Management of the Diseases of Children," I. N. Love, M.D., St. Louis, Mo.

2. "Syphilitic Broncho-Stenosis," A. Seibert, M.D., New York City.

3. "A Simple Method for Clinical Examination of Breast Milk," L. Emmet Holt, M.D., New York City.

4. "Sacro-Coccygeal Tumor in a Child 3 Weeks Old; Operation; Recovery," F. Huber, M.D., New York City.

5. (Title to be announced.) Henry Koplik, M.D., New York City.

Wednesday, May 4—Afternoon Session—3 P.M.

1. "Two Tracheal and Bronchial Casts," F. Huber, M.D., New York City.

2. "A Case of Death from Laryngismus Stridulus in incipient Rachitis," Samuel S. Adams, M.D., Washington, D. C.

3. "The Value of Milk Laboratories for the Advancement of Our Knowledge of Artifical Feeding," T. M. Rotch, M.D., Boston, Mass.

4. Action relative to the death of Dr. John Amory Jeffries, of Boston, Mass.

During the Sessions of the Society, the Members are invited to visit and inspect the Milk Laboratory, 203 Clarendon Street.

SAMUEL S. ADAMS, M.D., *Secretary.*
1632 K Street, Washington, D. C., April 15, 1892.

OFFICIAL LIST OF CHANGES in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 9, 1892, to April 15, 1892.

First Lieut. James D. Glennan, Asst. Surgeon, is relieved from duty at Camp Oklahoma, and ordered to Ft. Sill, Oklahoma Ter., for duty at that station, relieving Capt. Francis J. Ives, Asst. Surgeon, who, on being relieved, will report in person to the commanding officer at Ft. Sheridan Ill., for duty at that post. S. O. 86, A. G. O., April 12, 1892.

Capt. William H. Arthur, Asst. Surgeon, is relieved from duty at Ft. Grant, Ariz., and ordered to Vancouver Bks., Washington, for duty as post surgeon at that station, relieving Capt. Louis Brechemin, Asst. Surgeon. Capt. Brechemin, upon being relieved by Capt. Arthur, will return to his proper station, Presidio of San Francisco, Cal.

Capt. Alonzo R. Chapin, Asst. Surgeon U. S. A., is granted leave of absence for three months, on surgeon's certificate of disability.

Capt. William C. Gorgas, Asst. Surgeon U. S. A., is granted leave of absence for two months, to take effect on or about May 1, 1892, with permission to apply for an extension of one month.

First Lieut. William N. Suter, Asst. Surgeon U. S. A., resignation has been accepted by the President, to take effect July 28, 1892.

First Lieut. Merritte W. Ireland, Asst. Surgeon U. S. A., ordered to Ft. Yates, N. D., for temporary duty during the absence of Capt. Alonzo R. Chapin, Asst. Surgeon U. S. A., on sick leave.

OFFICIAL LIST OF CHANGES in the Medical Corps of the U. S. Navy, for the Week Ending April 16, 1892.

Surgeon W. S. Dixon, ordered to the Smithsonian Institution.